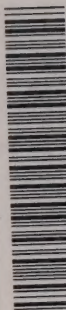


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Ontario

ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND  
RELATED MATTERS.

Hearing held  
21 floor  
180 Dundas Street West  
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamak, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence  
for

PHASE I

VOLUME 161

September 18, 1984

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ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
DEATHS AT THE HOSPITAL FOR SICK CHILDREN  
AND RELATED MATTERS

Hearing held on the 21st Floor,  
180 Dundas Street West, Toronto,  
Ontario, on Tuesday, the 18th day  
of September 1984.

PHASE I

VOLUME 161

THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner  
THOMAS MILLAR - Administrator  
MURRAY R. ELLIOT - Registrar

APPEARANCES:

P.S.A. LAMEK, Q.C. ) E. CRONK )	Commission Counsel
D. HUNT ) L. CECCHETTO )	Counsel for the Attorney General and Solicitor General of Ontario (Crown Attorneys and Coroner's Office)
I.J. ROLAND ) M. THOMSON ) R. BATTY )	Counsel for The Hospital for Sick Children
D. YOUNG	Counsel for The Metropolitan Toronto Police
K. CHOWN	Counsel for numerous Doctors at The Hospital for Sick Children
B. SYMES ) F. KITELY )	Counsel for the Registered Nurses' Association of Ontario and 39 Registered Nurses at The Hospital for Sick Children
D. BROWN	Counsel for Susan Nelles - Nurse





APPEARANCES (Cont'd.)

P. RAE	Counsel for Phyllis Trayner - Nurse
S. LABOW	Counsel for Mr. & Mrs. Gosselin, Mr. & Mrs. Gionas, Mr. & Mrs. Turner, Mr. & Mrs. Lutes and Mr. & Mrs. Murphy (parents of deceased children)
F. J. SHANAHAN	Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo) and Heather Dawson (mother of deceased child Amber Dawson)
W. W. TOBIAS	Counsel for Mr. & Mrs. Hines (parents of deceased child Jordan Hines)
A. K. PATERSON, Q.C. ) P. ATKINSON )	Counsel for Dr. P. T. Macklem






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--- Upon resuming:

THE COMMISSIONER: Yes, Mr. Lamek.

MR. LAMEK: Mr. Commissioner, the  
next witness is Dr. Peter Macklem. I call Dr.  
Macklem, please.

PETER T. MACKLEM, Sworn

THE COMMISSIONER: Would you  
introduce counsel. I guess you intend to do so?

MR. LAMEK: Yes, I do.

Appearing for Dr. Macklem, Mr. Peter  
Atkinson of the Ontario Bar, of course, and Mr. Alex  
Paterson of the Quebec Bar.

DIRECT EXAMINATION BY MR. LAMEK:

Q. Dr. Macklem, you are a  
physician duly licensed to practice Medicine in the  
Province of Quebec?

A. Yes.

Q. And you do so practice?

A. I have no private practice.

Q. No. You carry on the practice  
of Medicine in the hospital in Quebec, I take it?

A. Yes, that is correct.

Q. In terms of your background  
and qualifications, as I understand it, you did your under-  
graduate work at Queen's University here in Ontario





1

2

and, subsequently, you went to medical school at  
McGill.

3

4

A. Yes.

5

Q. From whence you graduated in  
1956.

6

7

A. Yes.

8

9

10

11

Q. Then you did an internship  
at Royal Victoria Hospital for two years and, subse-  
quently, a Residency in Medicine, which was divided  
between the Queen Mary Veterans' Hospital and the  
Royal Victoria Hospital.

12

A. That's correct.

13

14

15

16

Q. And subsequently, you held  
Teaching and Research Fellowships and Clinical  
Assistantships at the Royal Victoria Hospital and  
one year at the Harvard School of Public Health from  
1960 until 1965.

17

18

19

A. Actually, it was a little  
more than a year at the Harvard School of Public  
Health.

20

21

22

23

24

25

Q. It is approximately right?

A. It is approximately right.

Q. Subsequently, you became a

Research Associate at McGill University, The Royal  
Victoria and, in 1967, you became and remained until  
1972 the Director of The Respiratory Division at the





1

2

Royal Victoria Hospital.

3

A. That is correct.

4

5

6

Q. You became a Professor in  
the Department of Medicine at McGill in 1972 and, in  
that year, you were also appointed Senior Physician  
at the Royal Victoria Hospital.

7

A. Yes.

8

9

10

11

Q. You were an associated professor  
at the University of Paris from 1976 to 1977 and  
became Physician in Chief at the Royal Victoria  
Hospital in 1979.

12

A. That's correct.

13

14

Q. The position which I under-  
stand you hold today.

15

A. Yes.

16

17

18

Q. You had several other  
appointments, including that of Chairman of the  
Department of Medicine at McGill, a position you  
have held since 1980.

19

A. Yes.

20

21

Q. You are a Fellow of the Royal  
College of Physicians and Surgeons of Canada.

22

A. Yes.

23

24

25

Q. And have held various  
Fellowships and scholarships from various institutions





1

in the medical faculty, I take it.

2

3

A. Yes.

4

Q. You are, of course, a member of several learned and scientific and medical societies and have held office in many of them, including for our present purposes here the Canadian Society of Clinical Investigation, of which I understand you are now the President.

5

6

7

8

A. Immediate Past President.

9

10

Q. Immediate Past President, as of last week I take it.

11

A. That is correct.

12

13

Q. Last week was your 'swan song' in that office, was it?

14

A. Well, I remain on the Executive Committee as the Immediate Past President.

15

16

Q. You have been a member or are still a member of several editorial boards of learned journals in the area of Medicine, and in particular in the area of respiratory diseases, including again the Journal of Clinical Investigation.

17

18

19

A. Yes. That is not the journal for the Canadian Society of Clinical Investigation.

20

21

Q. I understand that.

22

You have published extensively and,

23

24

25





1

2

3

4

as I read the list of publications, very largely in  
the area of respiratory diseases, which, I take it,  
is your area of specialization?

5

A. That is correct.

6

7

8

9

Q. You have been good enough to  
provide me with a curriculum vitae, Dr. Macklem. I  
will have you identify it and then perhaps we can  
mark it as an exhibit. That, I think, is a copy of  
the document you furnished to me?

10

A. Yes. Do I just initial this?

11

12

Q. No, you don't need to even do  
that. Just tell me that is right and we will mark it.

13

A. Yes.

14

MR. LAMEK: Thank you.

15

--- EXHIBIT NO. 497: Curriculum vitae, Dr. Peter  
T. Macklem.

16

17

18

19

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21

22

MR. LAMEK: Q. Now, in addition to  
the achievements and qualifications that are listed  
in the curriculum vitae which we have just marked,  
Dr. Macklem, I ask you, do you consider yourself  
qualified to speak on research procedures and on the  
use which might properly be made of the results of  
scientific research?

23

A. Yes.

24

25

O. And is there any particular





1  
2 basis for considering yourself to be so qualified?

3 A. Well, the question was a very  
4 general one - do I feel qualified to talk upon the  
5 results of scientific research? Yes. The vast  
6 majority of my professional life has been doing  
7 scientific research. As you pointed out, I have been  
8 on the editorial boards of a number of journals,  
9 where my job on the editorial board is to judge the  
10 quality of that scientific research.

11 Q. As you have told us, until  
12 last week you were the President of the Canadian  
13 Society for Clinical Investigation.

14 A. That is right.

15 Q. I understand that last week,  
16 at a meeting of that society, you delivered a  
17 Presidential Address.

18 A. Yes.

19 Q. I am showing to you a copy of  
20 what I understand to be the text of that address and  
21 I will ask you again if you can identify that for me,  
22 please.

23 A. That is the address.

24 MR. LAMEK: Thank you.

25 May that be the next exhibit, please,  
Mr. Commissioner?





1  
2 THE COMMISSIONER: 498.

3 MR. LAMEK: Thank you.

4 --- EXHIBIT NO. 498: Copy of Presidential Address  
for CSCI Talk, "Trouble in  
Academe."

5 MR. LAMEK: Q. Dr. Macklem, believe  
6 me, I don't wish to do violence to your address in  
7 summarizing it. As I read it and understand it, you  
8 are expressing generally a concern about the calibre  
9 of physicians/scientists who are engaged these days in  
10 research and about the quality of their training and  
11 research. Does that fairly summarize the concerns  
you were stating in this paper?

12 A. Yes, one of the concerns.

13 Q. On the eighth page of the  
14 paper - and I have numbered them myself, the pages,  
15 which I do not think to be numbered - the first full  
16 paragraph reads:

17 "Thus my first most important con-  
18 clusions..."

19 On the eighth page, you address  
20 other related problems by beginning with the long  
paragraph on the page. You said:

21 "Other problems with regard to  
22 premature application of research  
23 techniques to bedside practice also  
24  
25





1  
2 relate to the poor training of our  
3 investigators, their ambitions, the  
4 tagging of promotions to productivity  
5 and the mediocrity of their critical  
6 senses. Let me give you three other  
7 examples of what I mean, two of which  
8 are in my own field."

9 And the third example, which is found beginning in  
10 the middle of the next page, is, of course, the one  
11 that concerns us.

12 A. Yes.

13 Q. At that point, you said:

14 "My third is one of the most appalling  
15 examples that I know of where  
16 important decisions were based on  
17 hopelessly inadequate research. It  
18 resulted from the unexplained deaths  
19 in the Toronto Hospital for Sick  
20 Children, which had been attributed  
21 to digitalis overdosage. The forensic  
22 scientists in the Attorney General's  
23 Office developed a test to detect  
24 digitalis overdosage in babies who  
25 were already dead and buried. They  
exhumed the babies who were thought





1  
2 to have died from digitalis overdose  
3 and, lo and behold! The tests were  
4 positive. This was given enormous  
5 newspaper publicity. The only  
6 problem was that these scientists  
7 had not followed even the most basic  
8 rules of establishing a diagnostic  
9 test. They did not exhume any babies  
10 who died outside the cardiac ward..."

11 That is your manuscript <sup>in line</sup> ~~delineation~~, I take it?

12 A. Yes, that is correct.

13 Q. And it was in the text that  
14 you delivered?

15 A. That is correct.

16 Q. "They did not exhume any babies  
17 who died outside the cardiac ward  
18 not thought to have been poisoned  
19 and thus had no controls. Thus they  
20 could in no way determine the sensi-  
21 tivity and specificity of their test.  
22 They did no animal experiments that I  
23 am aware of in which they poisoned  
24 their animals with digitalis (along  
25 with a controlled group), buried them  
for different periods of time and then  
exhumed them to see what they found.





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They knew nothing about the sources of variation in their test results, including various chemicals that might result from post mortem decomposition and which might give false positive results. In short, a research procedure was used to answer a very important question long before it was appropriate to do so, but in contradistinction to what I have been saying this was done for political rather than academic reasons. All reasonable people will reject the conclusions of the Attorney General's Office that exhumed babies were murdered by digitalis overdose because the evidence upon which this conclusion is based is not valid." And then you went on to deal with other situations.

I don't think I misdescribe that, doctor, if I describe it as strong stuff. Is that what you intended it to be?

A. Yes.

Q. And a rather searing indictment





1  
2 of what you considered to be inappropriate research  
3 and inappropriate usage of that research; is that  
4 fair?

A. Yes, I think that is correct.

5 Q. Can we identify first the  
6 precise cause of your complaint? What was it that  
7 truly concerned you to write a passage and deliver a  
8 passage of the kind I have just read?

9 A. There were several reasons.  
10 The first reason is that there are established pro-  
11 cedures by which one uses a research procedure and  
12 applies it as a routine diagnostic test. These  
13 procedures establish what is known as the sensitivity  
14 and the specificity of the test. I can go into the  
15 details of those, if you want me to.

16 Q. If you think it important to  
17 develop the thesis, then by all means do, doctor. I  
18 tell you, we have run across the term "specificity"  
19 in perhaps a slightly different context.

20 A. In somewhat different terms,  
21 all right.

22 Q. Yes. Perhaps you could ex-  
23 plain it for us then.

24 A. Is there a felt pen I can  
25 use because I will need the chart?





1

2

Q. How about a blue one?

3

A. That is fine.

4

Q. There is a black one.

5

A. If you want to test the  
diagnostic test, you have to study --

6

7

Q. I'm sorry, can we go back for  
a moment? Define diagnostic test.

8

9

10

11

12

13

A. A diagnostic test can be  
used for two purposes. It can either be used to  
give you confidence that a certain condition is  
present which you think may be present. Another  
purpose for a diagnostic test is it will give you  
a certain degree of confidence that that condition is  
absent.

14

15

Q. I'm sorry, I didn't mean to  
interrupt you.

16

17

18

A. So, the diagnostic test is  
used to improve your degree of confidence in whether  
the condition is present or absent.

19

20

Q. In terms of the present situa-  
tion and the language that you wrote when you said:

21

22

23

24

25

"The forensic scientists in the  
Attorney General's office developed  
a test to detect digitalis over-  
dosage in babies who were dead and  
buried."





1

2

A. Yes.

3

Q. -- is that the diagnostic test  
for the purposes of your present discussion?

4

5

A. For the present time, yes,  
that's correct.

6

7

Q. A test to determine, to  
detect digitalis overdosage in buried babies?

8

A. Yes.

9

Q. Thank you.

10

A. But it could be just the  
presence of digitalis.

11

12

Q. It could be --

13

A. I didn't say that.

14

Q. It could be overdosage, yes.

15

A. All right.

16

17

18

19

20

A. Now, in order to test the  
test, you need to have two populations of subjects on  
whom you test that test on. You need to have one  
population who you are certain have the condition in  
question, and another population of whom you are  
certain do not have the condition in question.

21

Q. Yes.

22

23

A. And in those two populations,  
you now apply the test and, in some, the test will

24

25





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be positive and, in others, the test will be  
negative. Let's say that there are A numbers of  
individuals who have the condition who have a positive  
test; that is called a true positive.





1/BM/ak

1  
2                   There are B number of individuals  
3 who do not have the condition who have a positive  
4 test, that's called a false positive; there are  
5 C number of individuals who have the condition but  
6 have a negative test, that's referred to as a  
7 false negative, and there are D number of individuals  
8 who do not have the condition who have a negative  
9 test and that's called a true negative.

10                   Q.       Yes.

11                   A.       Now, once you have that  
12 information one can determine certain characteristics  
13 of the test. The first characteristic is the tests  
14 sensitivity and sensitivity is defined as the  
15 percentage of individuals who have the condition  
16 and who also have a positive test. So, the  
17 sensitivity is equal to A over A plus C.

18                   Q.       Yes.

19                   A.       Now, if you have a sensitivity  
20 of 100 per cent, that is exceedingly useful in  
21 ruling out the disease because there are no false  
22 negatives, therefore if you get a negative result  
23 you know that you do not have the condition.

24                   Another parameter of the test is its  
25 specificity. The specificity is the percentage of  
patients or individuals who do not have the condition





1  
2 with a true negative value. So, it is equal to  
3 D over D plus B.

4 Now, if you have a sensitivity of  
5 100 per cent, that's exceedingly useful in ruling in  
6 a condition because there are no false positives.

7 Q. Yes.

8 A. All right. So, the specificity  
9 is the parameter by which you make a diagnosis,  
10 sensitivity is the parameter by which you exclude  
11 a diagnosis. However, in order to establish  
12 specificity, one must examine the test in a  
13 substantial number of individuals who do not have  
14 the condition. One cannot determine specificity  
15 without looking at individuals who we know do not  
16 have the condition in question.

17 Now, if I can continue there is more  
18 information that is available from this type of  
19 exercise which I think may be very helpful to this  
20 Commission.

21 Q. Yes.

22 A. The specificity and sensitivity  
23 by itself only gives you general characteristics  
24 of the test. Let's take a test whose sensitivity  
25 is 100 per cent, whose specificity is 99.7 per cent.  
On the surface that looks like a pretty good test





1  
2 but if you now repeat your testing, the people who  
3 have the condition, the people who do not have the  
4 condition, if it happens that the prevalence of that  
5 condition is very low in the population being studied,  
6 you may get into trouble. Let's say we take a  
7 whole large number of individuals and apply this  
8 test, we have a sensitivity of 100 per cent but we  
9 only detect two individuals who have the condition,  
10 we don't detect any without because there are no  
11 false negatives, we detect 997 without the condition  
12 who don't have it but we detect 3 who do have it.

13 Now, we come to a different parameter  
14 of this test, which is called the predictive accuracy,  
15 or predictive value, which is the percentage of  
16 individuals that you have detected who actually  
17 have the disease in question, or condition in  
18 question, as a percentage of the total people who  
19 have a positive test. So, that is 2 over 2 plus 3,  
20 which is only 40 per cent that says that you are  
21 only correct 40 per cent of the time.

22 Q. Yes.

23 A. If we now take another test,  
24 we will give it less desirable parameters, sensitivity  
25 80 per cent, specificity 80 per cent, but now the  
expected prevalence of the condition in the general





1  
2 population is that 50 per cent of that population  
3 have a condition, 50 per cent don't.

4 Q. Yes.

5 A. The numbers will turn out as  
6 follows: You have a sensitivity, specificity of  
7 80 per cent and your predictive accuracy is now 40  
8 over 50 and it is equal to 80 per cent.

9 So, the usefulness of the sensitivity  
10 and the specificity of a given test is only useful  
11 if you can have some prior estimate as to the  
12 likelihood of the prevalence of the condition under  
13 question.

13 Q. Yes.

14 A. And I would submit that although  
15 my remarks in this speech were made about the exhumed  
16 babies, that it may well be feasible to take data  
17 from the literature on digitalis levels post mortem  
18 in blood or heart to determine the sensitivity and  
19 specificity of that particular test with the advice  
20 of bio-statisticians and epidemiologists, to come  
21 up with a predicted prevalence in the population  
22 under study and determine the probability by which  
23 infants were murdered or not.

24 In fact, I would also suggest that  
25 if this Commission does not undertake that exercise,





1  
2 it will be wide open to criticism afterwards for  
3 not having done so.

4 Q. Now, Dr. Macklem, is it then  
5 the thrust of your concern when you were addressing,  
6 in particular, findings with respect to exhumed  
7 tissues --

8 A. Now, coming back to exhumed  
9 tissues if I may.

10 Q. Of course, yes.

11 A. Not only can you not determine  
12 the specificity of the test by not exhuming babies  
13 not thought to have died from digitalis poisoning,  
14 but you wouldn't have a group whom you were sure  
15 had the condition compared to a group whom you  
16 knew did not have the condition. You would have  
17 this group but you wouldn't have that group.

18 Now, that's a very difficult question  
19 to solve but one approach would be to take  
20 experimental animals, to kill a group of experimental  
21 animals by digitalis overdose, take another group  
22 of animals and kill them by another means, to bury  
23 them for varying lengths of time, to exhume the  
24 bodies and run the tests.

25 Now then, it is very important that  
the people who do the tests on a particular animal don't





1  
2 know which group the animal falls into as to  
3 whether they have the condition or don't have the  
4 condition. That is a feasible experiment and would  
5 give you information about sensitivity and  
6 specificity in animals. It would be a big step to  
7 extrapolate that to humans but at least it is one  
8 step in the right direction.

8 Q. Was it your concern in  
9 addressing this matter last week that you understood  
10 that none of these tests which you have identified  
11 for us and no animal testing with a controlled  
12 population had been done certainly with respect  
13 to the exhumed tissue results?

14 A. I was certain that no babies  
15 who had not died off the cardiac ward had been  
16 exhumed and, therefore, I knew that specificity  
17 could not be determined. I was uncertain as to  
18 whether animal experiments were done and on a  
19 number of occasions I contacted individuals at the  
20 Hospital for Sick Children to see if I could get  
21 that information.

21 Q. Yes.

22 A. And they all said that as far  
23 as they knew no animal experiments had been done.

24 Now, there is a second part to my  
25





1  
2 answer. You asked me why I stated it in such strong  
3 language. In fact, I tried to get this information  
4 across starting in January of 1983 when I wrote  
5 a letter to the editor of the Globe and Mail, which  
6 the Globe and Mail did not publish. Upon advice  
7 I was told to shorten that letter because it was  
8 probably too long and resubmit, so, I wrote again  
9 to the Globe and Mail. The Globe and Mail did  
10 not publish. I sent a copy of the letter to  
11 Mr. Sopinka. My son Patrick, who was a law student  
12 at the time also contacted Mr. Sopinka. At that  
13 time he also phoned you. In response, you telephoned  
14 me at my office and I must confess I guess I didn't  
15 communicate with you very well. I don't remember  
16 the details of the conversation but probably you  
17 and I got mixed up over the words specificity and  
18 you were thinking of specificity in terms of how  
19 specific the test was for digoxin and I was thinking  
20 of specificity in this sense, a number of false  
21 positives, and therefore, you went on to talk to  
22 another individual.

23 But I felt that this was a very  
24 important issue for Canada and for the Hospital  
25 for Sick Children, for the parents, for Susan Nelles,  
for many, many different individuals. I felt strongly





1  
2 on the basis of my training as a physician,  
3 diagnostician and researcher that there were  
4 additional ways that one could look at the data  
5 which insofar as I was aware had not been looked at  
6 and nobody was willing to listen to me.

7 I wrote that letter to the Globe and  
8 Mail in my capacity as Physician in Chief at the  
9 Royal Victoria Hospital, as Chairman of the Department  
10 of Medicine of McGill University and as a fellow of  
11 the Royal Society of Canada, so, I thought I had  
12 the credentials to make the statement and I must  
13 admit I got angry. But I felt that, you know, I've  
14 gone down this pathway I'm not getting anywhere  
15 I had better try another pathway. So, I did and  
16 I stated it strongly and possibly I overstated the  
17 case and if I overstated the case and if I offended  
18 individuals I apologize to them.  
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Q. Dr. Macklem, look at what you said and what your understanding was. As we have said, the test, the diagnostic test that you were addressing in your paper last week was what you understood to be a test to detect digitalis overdose in babies who were already dead and buried.

A. That is correct.

Q. Will you tell me, please, the source of that understanding. Where did you get that idea from?

A. Well, I assumed that if they were going through the exercise of exhuming babies in a murder case, they wanted to get useful information, they were going to find digitalis and, ultimately, the idea would be to show that these babies had or had not died from digitalis overdose.

O. Did you understand that there was a test that had been developed, as you said, to detect overdose of digitalis?

A. The test was obviously a test to detect the presence of digitalis. However, in a murder inquiry where you suspect that murder had been committed by overdose of digitalis, ultimately the aim of the test would be to detect overdose or otherwise; otherwise, there is no point in exhuming





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the babies.

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Q. Forgive me, I just want to be clear. It would seem to me there is a distinction to be drawn between a test to detect overdose of digitalis, on the one hand, and a test to detect digitalis whose results may be interpreted as overdose.

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A. Yes, there is that distinction to be made.

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Q: Did you have that distinction in mind when you delivered this paper and described it as a test to detect digitalis overdosage?

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A. No, I didn't, because I thought that if the exhumations were done just to detect the presence of digitalis and that no further conclusions could be made about that, as to whether overdose had been present or whether digitalis was in toxic level, in toxic range, there would be no point in exhuming the babies. It wouldn't help the investigation one way or the other.

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Q. You, therefore, assumed, I take it, Dr. Macklem, that the testing had been done on exhumed babies in order to permit interpretation of those results as indicating overdosage or not and that such interpretation had taken place?





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A. Yes.

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Q. That was your understanding?

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A. That was my understanding.

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Q. Did you make any enquiry as  
to whether your understanding was correct?

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A. I made enquiry in the news-  
papers.

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Q. You read the newspapers?

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A. I read the newspapers, yes,  
that is correct.

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Q. Did you, at any time, address  
Mr. Cimbura or anyone at the Centre of Forensic  
Sciences as to what use or interpretation had been  
made of the data?

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A. No. But, in all honesty, I  
don't think it was necessary to do so. There is no  
point in doing a scientific experiment if you know  
ahead of time you can't interpret the results.

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Q. Well, perhaps we can come to  
that in a moment.

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What information did you have as to  
the techniques used to detect digoxin in these  
exhumed babies?

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A. None.

Q. Were you aware of the





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commonly used assay techniques to detect substances  
such as digoxin?

A. I was certainly aware that  
radioimmunoassay, HPLC and gas chromatography and  
mass spectrometry are used to detect chemicals. I was  
not aware of the exact methodology in this case. I  
didn't need to be.

Q. Well, do I take it from that  
that you are not disputing that what was found was  
digoxin?

A. No. I was not disputing that.

Q. Are you prepared to accept  
the efficacy of the assay techniques as having  
identified digoxin in these children?

A. I am prepared to accept the  
efficacy of the assay techniques as being the state  
of the art. I believe - I am not an expert in this  
field. I believe other experts in this field at the  
digitalis meeting that was held at the University of  
Toronto stated that an improved technology for  
detecting digoxin by gas chromatography and mass  
spectrometry would be a very important advance,  
which suggests to me there are improvements that can  
be made of the techniques.

Q. Are you referring to the





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conference and the panel of experts that were convened  
at The Hospital for Sick Children --

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A. That is correct.

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Q. -- earlier this year?

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A. That is correct.

7

Q. Were you aware of those at  
the time you delivered your paper in Montreal?

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A. No.

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Q. I take it that you have now  
read the minutes of the meeting of the experts on the  
question of testing procedures - Exhibit 400, Mr.  
Commissioner.

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A. Yes, I have skimmed over them.

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Q. Having skimmed over them,  
perhaps we should have a look at the panel for a  
moment - Exhibit 400. The expert panel that was  
convened by The Hospital for Sick Children was made up  
of Catherine Costello, Department of Chemistry, M.I.T.  
do you know Dr. Costello or know of her?

A. No. I know of her, yes.

Q. She is a reputable and  
recognized authority in the field, is she?

A. My understanding is that she  
is one of the world authorities in the field of  
gas chromatography and mass spectrometry.





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Q. -- and Dr. Bryan Finkle was  
there from Genentech Inc. in San Francisco, California.

Do you know anything of Dr. Finkle?

A. No.

Q. Dr. Arnis Kuksis from the Banting  
& Best Department of Medical Research at the  
University of Toronto. Do you know of him?

A. By reputation only.

Q. I take it favourably, by  
reputation?

A. Yes.

Q. Dr. Thomas Moyer, Department  
of Laboratory Medicine at the Mayo Clinic in  
Rochester, Minnesota.

A. No.

Q. Dr. Michael Peat from the  
Center of Human Toxicology at the University of Utah.

Do you know of him?

A. No.

Q. You understood, did you, that  
the purpose of that panel, as set out on page 2 of  
the Minutes --

A. Is it possible to have a copy?

Q. I thought you had a copy of  
that.





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MR. ATKINSON: He doesn't have it  
up there with him.

MR. LAMEK: Okay.

Q. Page 2 of the Minutes. The  
objective of the panel was stated - these are  
Dr. Hill's Minutes:

"To agree on criteria for the  
identification of digoxin and  
digoxin metabolites in human tissues  
and fluids.

To review the data available  
from patients Belanger, Cook, Hines  
and Lombardo, and to decide if the  
data met the criteria established  
under Subsection 3.1.

To consider and to recommend  
for or against additional studies on  
tissues or fluids from the patients  
named in Subsection 3.2 or other  
patients, taking into consideration  
the conditions of collection,  
preservation and storage of these  
tissues or fluids."

There then follows a list of the  
material which had been provided to each participant.





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At page 3, there is a summary of the points made and, at the bottom of page 3, the sixth part of the Minutes:

"Following discussion, the Panel reached the following consensus:

6.1. In the context of the cases under discussion, it was agreed that a positive test for digoxin obtained by an acceptable analytical procedure would be considered as presumptive evidence for the presence of digoxin in the material being examined. An acceptable analytical procedure was defined as one in which a specimen was subjected to HPLC followed by RIA and in which, in the RIA part of the procedure, the counts for the lowest standard differed from the counts for the zero standard by at least 2,000 cpm. A positive test was defined as a digoxin result of at least 1 ng/ml of blood, or 2.5 ng/g of tissue (wet weight).

6.2. Although the raw





1  
I9 2 analytical data were not immediately  
3 available, the Panel accepted Mr.  
4 Cimbura's assurances that the  
5 digoxin results presented by the  
6 Centre of Forensic Sciences for  
7 Patients Belanger, Cook, Hines and  
8 Lombardo met the criteria set out  
9 in Subsection 6.1."  
10 Coming back to 5.2 on that page,  
11 Dr. Macklem, I take it you are aware from reading  
12 these Minutes that the Panel:  
13 "...placed a much higher degree of  
14 reliance on the high pressure liquid  
15 chromatography/radioimmunoassay (HPLC/  
16 RIA) data than on the GC/MS data.  
17 This preference was based on the  
18 known problems in interpretation of  
19 the GC/MS data and on a high degree  
20 of confidence in the HPLC/RIA  
21 technology. This confidence was  
22 strengthened on learning of the  
23 way in which the HPLC/RIA had been  
24 applied."  
25 You learned that upon reading these  
Minutes, I take it; that was the view of this panel?





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A. Yes, but I would like a clarification on that point.

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The sentence, "This preference was based on the known problems in interpretation of the GC/MS data," does that apply to GC/MS data for detecting digoxin in general or does it apply specifically to the tests applied to the exhumed babies?

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Q. I had understood that was in general.

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A. It is not specified here.

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Q. No. I agree it is not. But it is coupled with a "high degree of confidence in the HPLC/RIA technology" with, then, in the following sentence, an application to what was done in this case.

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In any event, did you not take it from those Minutes of that meeting of experts that they, at least, were reasonably satisfied with Mr. Cimbura's work in terms that the techniques at least was state of the art work and they produced results with which they could live?

A. I am perfectly willing to accept that, yes.

Q. Although I take it, at the time you made your speech, you were not aware that had been the consensus of that panel of experts?





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A. That is correct, because that has nothing to do with the point that I was making.

Q. Your point was as to the use made of the results?

A. Well, also to the lack of controls.

Q. Isn't that a function of the kind of use that can be made of them?

A. Yes. But if you were to dig up exhumed babies who had died for other reasons and find high levels of digoxin in those exhumed babies, where would you be?

Q. All right. We will come to that and think about it in a moment.

Let's be clear though first, what use you understood had been made of these data at the time you delivered your speech; what interpretations you understood had been placed on those data at the time you made your speech?

A. I thought I had answered that question before.

Q. I want to be absolutely clear because we are now coming to the nub of your concern.

A. Sure. I will try and restate





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what I stated before; that I thought the test had been used to detect digoxin in exhumed babies and the reason why that test had been introduced would be to gain evidence for or against those babies having been murdered.

Q. Is that the matter to which you referred when you said, in the first sentence of that passage to your speech:

"Dealing with this, this is one of the most appalling examples that I know of where important decisions were based on hopelessly inadequate research."

What were the decisions that you believed to have been based on this research?

A. It was certainly my recollection from reading the newspapers at that time that at least the Attorney General's Office thought that they had not considerable evidence that exhumed babies might have been murdered. My recollection is - and I may be wrong - that the media claimed that the Attorney General said the babies had been murdered. That is the sort of decision. There are other decisions, presumably, which were taken which would be taken if there were a high degree of suspicion that





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babies had been murdered which, in fact, had not been murdered. It would take the police investigation down the wrong path. They were trying to pinpoint who was on duty at what time and where and so on for a whole bunch of babies that didn't concern them in the least. So, those are decisions that would be taken on the basis of such a high index of suspicion.

Q. Your understanding that those decisions or determinations had been made was based upon your reading the press reports of the case and of this Commission and so on?

A. Yes, but it is not only my understanding. I showed the speech ahead of time to at least three individuals - and I think four - none of whom objected to that statement.

Q. Do you know if any of those people had any more information than you had or from any source other than you had it?

A. I showed the speech to two individuals in The Hospital for Sick Children particularly, to check on the accuracy of the statements that I made.

Q. That important decisions had been made on the basis of this research?





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A. Yes.

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Q. And they found no problem

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with that?

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A. I didn't ask them that

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specific question. I said, look, I want you to read

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what I am going to say about The Hospital for Sick

Children; can you tell me if it is accurate.

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Q. At the time that you made

9

your speech, Dr. Macklem, were you aware that none of

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the murder charges which were laid against Miss

11

Nelles was based, even in part, on digoxin levels in

12

exhumed tissues?

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A. Yes, I was aware of that.

14

I'm sorry, I can't vouch that I was aware of that.

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Q. For all you knew, some of

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those charges may have involved evidence of levels

in exhumed tissue?

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A. Yes in fact I guess I assumed that they did, that is why I sent a copy of the letter to Mr. Sopinka.

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Q. Is it your current understanding that now in fact none of those cases was based upon any exhumed tissue levels?

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A. On the charges against Susan Nelles?

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Q. Yes.  
A. That is my current understanding, that is correct.

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Q. Did you make any effort to check the accuracy of your understanding as to the kind of data that were involved that underlay the murder charges?

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A. I in no way objected, have any objection to the charges that were laid against Susan Nelles in the sense that that is police business and I would only object to them if they were based on data of exhumed babies.

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Q. Which you understood them to be?

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A. I thought they were at the time, that is correct, I was mistaken.

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Q. I take it that was one of the





Macklem, dr.ex.  
(Lamek)

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2 things that led you to talk about this being a most  
3 appalling example of an important decision based on  
4 inadequate research, that would be a pretty horrible  
5 consequence, wouldn't it?

6 A. It would certainly be a  
7 horrible consequence to be charged with a murder  
8 that had not been committed.

9 No, I think at the time I made the  
10 speech that I was aware, when I originally wrote the  
11 letter to the Editor and wrote to Mr. Sopinka; I was  
12 aware, or I thought that some of the exhumed babies  
13 were ones that Miss Nelles was charged with. At the  
14 time we gave the speech I did not think so, and I  
15 am talking about --

16 Q. All right, that was your state  
17 of knowledge at the time you made the speech.

18 Were you aware at the time you made  
19 the speech that Mr. Cimbura from the Centre of  
20 Forensic Sciences had repeatedly and consistently  
21 maintained that his finding of digoxin in exhumed  
22 tissues could only be interpreted qualitatively as  
23 showing the presence of digoxin and not quantitatively?

24 A. No, I was not, but I don't  
25 think that would alter what I said very much.

Q. I will think about that one in





1  
2 a moment. Were you aware that Mr. Cimbura said  
3 repeatedly and consistently that he could not infer  
4 from his test results what concentrations of digoxin  
5 may have been present in the exhumed children at  
6 the time of their death?

3  
7 A. Not at the time I made the  
8 speech.

9 Q. Or <sup>that</sup> whether he could not infer  
10 the kind or size of dose that might have been  
11 administered to produce those levels?

12 A. I was not aware of that at the  
13 time I made the speech.

14 Q. Did it occur to you to make  
15 any enquiries as to just what Mr. Cimbura thought  
16 could be taken from his test results.

17 A. Would you repeat that please?

18 Q. Yes. Did it occur to you to  
19 make any enquiries as to what the author of those  
20 results thought could be taken from them?

21 A. No, it didn't, but it was  
22 irrelevant to my argument.

23 Q. It is only irrelevant to  
24 your argument isn't it if an improper use is being  
25 made of inadequate data?

A. No. From a scientific point





Macklem, dr.ex.  
(Lamek)

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of view there is no point in doing an experiment if  
you know ahead of time that the experiment is not  
going to provide any useful information.

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Q. With the greatest of respect,  
Dr. Macklem, you didn't charge Mr. Cimbura and these  
scientists with having embarked upon a futile  
exercise, you charged them with making important  
decisions on the basis of inadequate research.  
Doesn't the nature of the decision bear upon the  
validity of your comment?

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A. The nature of the decision I  
maintain - I am not sure of the nature, but I said  
there were important decisions based upon it  
yes.

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Q. Well you were under a mis-  
apprehension as to what those decisions were?

A. Well I admit I was only  
informed by the media. But I would submit that as  
a result of the exhumations of the babies this  
raised the index of suspicion considerably that  
some babies had been murdered, who were exhumed.  
That otherwise the whole question of the exhumed babies  
would never have been give such wide publicity and  
would never have been discussed at great length  
within this Commission, because everybody would





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agree that no one could possibly come to any conclusion whether those babies had been murdered or not murdered, and therefore why discuss them any further; but they had been discussed at great length.

Q. All right. What is your understanding of the discussion of them that has taken place in this Commission?

A. I presume the discussion --

Q. What is your information, not your presumption. What do you know ~~what~~ that has been said about those results in this Commission Dr. Macklem?

A. The questions have been asked as to whether anyone could get any information as to whether the babies had been murdered, and the answer has been, no, they can't.

Q. Did you have that information available to you at the time you made your speech?

A. No, I did not, but I submit that is irrelevant too.

Q. Have you ever seen the reports from the Centre of Forensic Sciences setting out these results derived by Mr. Cimbura?

A. I believe I have. Can I see them?

MR. LAMEK: I wonder, Mr. Registrar,





1  
2 if you could provide Dr. Macklem with a copy of  
3 Exhibit 95.

4 Now Dr. Macklem, that Exhibit is  
5 made up of a series of reports.

6 A. Yes, yes, I have seen these.

7 Q. When did you see these?

8 A. This weekend.

9 Q. Had you seen them at the time  
10 you made your speech?

11 A. No.

12 Q. Did you have any information  
13 as to the contents of these reports at the time you  
14 made your speech?

15 A. No.

16 Q. Can you turn with me please to  
17 Exhibit 95E, which is the fifth report contained  
18 in that bundle, it has a date September 29th, 1982.

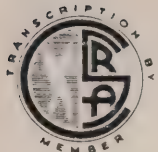
19 A. Do you have the page number?

20 Q. They are not numbered  
21 sequentially right through. The first of the reports  
22 is the longest of them and runs 13 pages. There are  
23 then a couple of short reports, two pages 95B, three  
24 pages 95C, 95D is a one pager.

25 A. Yes, okay.

Q. Now we come to 95E.





Macklem, dr.ex.  
(Lamek)

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A. A.G.N. Bilodeau?

3

Q. Yes. Now it was in this report

4

that Mr. Cimbura was reporting upon many of the  
concentrations recorded in exhumed tissues.

5

The first one as you see is Baby

6

Bilodeau.

7

A. Yes.

8

Q. He identifies specimens

9

reported to be from autopsy after exhumation of

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A.G.N. Bilodeau. Could you turn to the second page

11

of that report with me, please, and to Mr. Cimbura's

12

notes following those results. He first gives ranges  
of digoxin concentrations for fresh autopsy specimens

13

and says:

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"The digoxin concentrations in the

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various tissues are within the range

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of concentrations reported in

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corresponding 'fresh'..."

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And he then says:

19

"3. The embalming process, the long

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burial period and the resultant

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decomposition may have influenced the

22

digoxin concentrations to an extent

23

which cannot be assessed with a

24

reasonable degree of scientific

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Macklem, dr.ex.  
(Lamek)

1  
2 "certainty. For this reason,  
3 comparison of digoxin values in the  
4 exhumed autopsy material with those of  
5 'fresh' autopsy tissues may not be  
6 valid. In view of this and other  
7 factors, the results obtained in this  
8 case are considered inconclusive with  
9 respect to digoxin toxicity."

8  
10 Were you aware that Mr. Cimbura had  
11 made that note in reporting his findings?

12 A. Not at the time I made the  
13 speech.

14 Q Would it have been of some  
15 significance of you to know that?

16 A. No, I don't believe so.

17 Q. That Mr. Cimbura was saying,  
18 "Look you can't interpret these results as indicative  
19 of digoxin toxicity"?

20 A. I am very glad he did, he and  
21 I are in complete agreement.

22 Q. If you were in complete  
23 agreement with him would you have delivered the  
24 kind of indictment you did of him last week?

25 A. The research procedures to  
establish a diagnostic test were totally





1  
2 inappropriate.

3 Q. If the test was as you under-  
4 stood it to be? If it was not to establish toxicity  
5 or overdosage --

6 A. With all due respect, Mr.  
7 Lamek, prior to coming up here you told me in the  
8 office that a group of people felt very strongly that taking  
9 all the evidence together that Baby Lombardo was  
probably murdered.

10 Q. Yes, I did, and I am certainly  
11 prepared to deal with that with you.

12 A. Now if you had exhumed babies  
13 never given digitalis and found the same level of  
14 digoxin as you found in the Lombardo baby, I don't  
think you would have much evidence.

15 Q. Let's come to that view in a  
16 moment. If you were to work through Exhibit 95D,  
17 you would find the same or comparable notes made in  
18 the case of the results reported on Baby Inwood,  
19 Baby Belanger, Baby Gage, Baby Woodcock and so on.  
20 In 95F, the next report, the same kind of comment  
21 with respect to the results in Onofre, and again  
for the results in the case of Baby Bilodeau.

22 Did you regard that as being anything  
23 inappropriate in these reports when read together with  
24  
25





1  
2 Mr. Cimbura's notes?

10 3 A. I don't think there is anything  
4 inappropriate in those notes.

5 Q. Did you think Mr. Cimbura  
6 is drawing extravagant or unwarranted conclusions  
7 from his findings?

8 A. No, I never claimed he did.

9 Q. I suppose what you said will  
10 speak for itself, so I won't attack that. Fairly,  
11 in Exhibit 95C, Mr. Cimbura did go a step further  
12 with respect to the Lombardo child. That is the  
13 13 pager and it is the second in a two-page report,  
14 a three-page report, I am sorry. On page 2 of  
15 that report Mr. Cimbura reports on recorded levels  
16 in the exhumed tissues of Stephanie Lombardo. He  
17 reports on those, and as you see they are a significant  
18 level. His note on page 3:

19 "In view of the length of time the  
20 body had been buried it is difficult  
21 to assess the significance of the  
22 digoxin concentrations found in the  
23 various tissues. Nevertheless, the  
24 possibility of digoxin poisoning must  
25 be considered in this case."

Do you think that an inappropriate





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comment for Mr.Cimbura to make. Cimbura to make?

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A. There is the possibility of digoxin poisoning in every case. The point is by exhuming the babies you are not going to get any evidence for or against it.

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Q. Which is in fact what Mr. Cimbura reported, is it not?

7

8

A. Sure, I can't disagree with saying the possibility of digoxin poisoning must be considered in this case, he could have said that about every case, and he didn't have to exhume the babies to say it.

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Q. He could, he chose not to, Dr. Macklem, is that reasonable from a review of his notes?

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A. I think it is perfectly reasonable but it is possible all those babies were poisoned by digoxin for all I know.

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Q. Of course it is. But the most extravagant that Mr. Cimbura was prepared to believe in delivering his report, was in the case of Lombardo, a child for whom the drug had never been prescribed and in whom he found very high levels of digoxin in exhumed tissue and he said you have to consider the possibility of digoxin involvement it is hardly an extravag

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wild-eyed statement, is it?

A. Hardly, that is correct. You know really I am not objecting to anything Mr. Cimbura has done. In terms of his reports I will agree with you all down the line. Scientific research on human subjects, living human subjects, requires Ethics Committee approval.

Q. Yes.

A. The Ethics Committee would never give approval to a scientific research project on human subjects when you knew in advance that the information you were going to get was going to be essentially useless.

Q. Can you conceive of an Ethics Committee approving an experiment designed to call for the exhumation of babies believed not to have had digoxin involvement, merely for use as control?

A. I don't know, the editors of the Montreal Gazette do. I think it would be unlikely. The point then being that there is no way that you could answer the question that you want to answer and therefore you will never know. But no Ethics Committee would approve exhuming babies who were thought to have been poisoned unless you can get further information from that exhumation.





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Q. They certainly wouldn't

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authorize the exhumation of babies not thought to

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have been poisoned, would they. I know what the

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Gazette said, Dr. Macklem, you have been in the

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research business for 25 years. Could you conceive

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of an Ethics Committee agreeing to that?

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A. Ethics Committees agree

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depending to risks, depending upon the benefits that

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may result. No research of human beings is ethical

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if there is going to be no valid data.

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A. A highly <sup>in</sup>vasive procedure on an individual is usually not going to be ethically acceptable unless the risk to the patient is justified by some benefit. I think it is a question of which might be debated in a situation where you have a tremendously important question which requires answering that given the importance of the question, whether it might be ethical to ask parents to allow their babies to be exhumed. I don't know what the answer to that question is.

My first inclination would be, no, it is not, therefore, no exhumation should take place in the first place because that in itself is unethical because that in itself is unethical because you know you are not going to get any valid results.

The only other alternative is to see whether, and examine the issue with people who are expert in medical ethics and ethics in general as to whether it might be feasible and given the parents' permission and willingness to go along with the importance of this Inquiry as to whether they would allow to have their babies exhumed.

Q. The parents of uninvolved children from non-cardiac wards?





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A. Yes. You would obviously have to do it with their permission, their permission being essential.

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Q. Well, I don't want to become a witness in this, Dr. Macklem, but did you not tell me less than three hours ago --

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A. I don't either.

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Q. Did you not tell me less than three hours ago that until you saw the editorial in the Gazette you would not have thought that any Ethics Committee would have approved the exhumation of non-involved children?

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A. I said I thought it was ethically unlikely or ethically, from my point of view, ethically not acceptable, but I have not discussed that possibility with any specialist in medical ethics.

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Q. Notwithstanding you thought it to be ethically unacceptable, was it not one of the sticks that you used to belabour these scientists in your speech? You say they didn't

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exhume any babies who died outside the cardiac ward not thought to have been poisoned and thus had no controls. In light of your own view that that was not ethically acceptable, was that seriously a criticism?





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A. The only way they could get acceptable results was to exhume control babies. Given the opinion that that would be ethically unacceptable, then no exhumation should have taken place in the first place.

Q. That's not quite what you said though, is it? You said they did not exhume any babies who died outside the cardiac ward not thought to have been poisoned and thus had no control?

A. I did not mean to imply by that that they should have. I implied that they did a bad experiment; and they did a bad experiment.

Q. Whether the sentence in the context is capable of bearing the meaning that I am suggesting I suppose is for others to decide, not me.

You are quite right, there were no controls, whether human or animal. Your point is, as I understand it, Doctor, that in the absence of any control information with which to compare the digoxin levels recorded, no valid conclusions could be drawn from the recorded levels.

A. And therefore the exhumation should not have taken place.





Macklem, dr.ex.  
(Lamek)

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Q. Doctor, have you never embarked upon an experiment and think it might lead to somewhere and finding out that it didn't?

A. Never when I knew in advance that it wouldn't.

Q. Well, you may be more prec<sup>s</sup>cient than other people.

A. It's a basic rule of science that if you are going to have valid results you have to have controls.

Q. Might it depend upon what results you may be capable of getting?

A. You must have controls anyway.

Q. All right. Is <sup>then</sup> ~~it~~ the slightest evidence to your knowledge, Doctor, to suggest that digoxin may be manufactured in the body either before or after death?

A. I have no idea but I think it is a possibility.

Q. In the sense that anything is a possibility?

A. No. Digoxin is a biological, or digitalis is a biological substance which is found in plants, therefore, the genes exist for the production of digitalis. For all I know, those





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2 genes may exist in bacteria which are involved in  
3 bodily decompensation or possibly they may act on  
4 steroids already present in the body and degrade  
5 them to digoxin, I don't know, it's a possibility.

6 Q. It's a possibility.

7 A. And that's why controls are  
8 necessary.

9 Q. Obviously it has to be a  
10 possibility. Are you concerned that not one of the  
11 physicians or pharmacologists who gave evidence here  
12 and expressed opinions had any question that the  
13 findings of digoxin in tissue indicated administration  
14 during life?

15 A. Was I surprised? Yes, I think  
16 so, particularly because you, Mr. Commissioner,  
17 brought up that possibility in page 1952 of Volume 53  
18 during Mr. Cimbura's testimony where you asked to  
19 the effect if digoxin could possibly get into dead  
20 and buried babies without having been injected pre-  
21 mortem and Mr. Cimbura's answer was to the effect  
22 that as far as he knew there was nothing published  
23 on that. So, obviously, the possibility came to  
24 your mind, Mr. Commissioner.

25 Q. Of course it did and would come  
to any mind. But is there any evidence of which





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you are aware to suggest ---

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Dr. Macklem, do you think that question hadn't occurred to leading pharmacologists who came here to give evidence?

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A. I don't know.

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Q. All you say is that without controls you can't rule out that possibility, however remote possibility it may be. Is that fair?

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A. That's correct.

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Q. All right.

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A. It is a possibility.

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MR. LAMEK: Mr. Commissioner, it is plain that I'm not going to finish before lunch.

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THE COMMISSIONER: How long do you think?

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Dr. Macklem, we had heard a lot about your travel plans earlier. Do you know what the position is now?

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THE WITNESS: My wife is currently seeing whether there is a later flight that I can possibly take. I really can't appear before this Commission tomorrow, I must be in Washington some time tomorrow. I can't stay, but I can arrive in Washington tomorrow.





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THE COMMISSIONER: There are two possibilities. First of all, I say this to all the witnesses and I'm not trying to be offensive, but we could finish you off before you go to Washington.

THE WITNESS: You are doing a pretty good job at that.

THE COMMISSIONER: Before you go to Washington and then you wouldn't have to come back but if we are left in the position where the cross-examination --

THE WITNESS: Maybe I wouldn't want to come back.

THE COMMISSIONER: Well, there is that possibility too. But assuming that you would be willing to come back, assuming that we can arrange a date, we may have to ask you to come back at some later time but I would like, if it is possible, I hope your wife will be successful and that we can sit late tonight.

THE WITNESS: I would be willing to do that.

THE COMMISSIONER: I don't think there is any merit in shortening the lunch hour, but there may be.





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MR. LAMEK: I won't be more than  
a half an hour, maybe less.

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THE COMMISSIONER: Can you give us  
any indication of how long you will be, Mr. Hunt?

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MR. HUNT: I will be some time,  
it would be anywhere between a half an hour and  
an hour.

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THE COMMISSIONER: Well, I think we  
have a reasonable chance. I just keep hoping that  
all these counsel that we are welcoming back today  
will have found most of the good questions have  
been asked before it gets around to them.

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All right. Well then, until 2:15.

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--- Luncheon recess.

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--- Upon resuming.

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THE COMMISSIONER: Yes, Mr. Lamek.

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MR. LAMEK: Thank you, sir.

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Q. Dr. Macklem, when you made your speech to the Society last week, were you aware that the common thread which runs right through the toxicological and pharmacological evidence at this Commission at any rate has been that no conclusions could be drawn about the size and time of digoxin doses, let alone whether any such doses were administered accidentally or deliberately on the basis of the findings in the exhumed tissues?

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A. No, I was not aware of what was said to the Commission in any great detail. In fact, nothing in my speech in any way tended to criticize the Commission. I was really criticizing the exhumation of the babies.

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Q. I take it from that answer, Doctor, that you had not read or been made aware of the evidence of any one of Mr. Cimbura or Drs. McLeod, Spielberg, Hastreiter, Kauffman or Merkin?

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A. That's correct.  
Q. And I should tell you, Dr. Macklem, that Dr. Hastreiter, who was the pediatric cardiologist from Chicago, said in his evidence that

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he thought the Lombardo levels in the exhumed tissues were so high that, remembering that no digoxin had been prescribed for that baby, they were not likely to have resulted from the accidental administration from a routine therapeutic dose or even of a loading or digitalizing dose of the drug but, at the end of the day, he agreed that the levels weren't capable of supporting any clear conclusion.

Were you aware that he even contemplated attempting to quantify a dose greater than a therapeutic or digitalizing dose?

A. I wasn't aware of that at the time, no.

Q. Were you aware at the time you made your speech that a meeting of the police and their medical and scientific advisers and consultants in the early fall of 1982, that the Lombardo and Belanger cases, those were two of the children who were exhumed, those cases were classified as probable murder cases? Were you aware of that?

A. It was certainly my impression that, from reading the media, someone had concluded that exhumed babies had probably been murdered.

Q. Were you aware that that classification was based on the evidence that we have





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AA3 2 heard here and in the Minutes of the meeting, based  
3 on an overall view of all of the features of those  
4 children's cases; that is, these conditions, their  
5 hospital course, manner of dying, as well as any  
6 toxicological information that was available?

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7 A. I would presume that would  
8 be the case, yes.

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9 Q. And I take it that you had  
10 no way of knowing what weight, if any, had been  
11 placed upon toxicological information from their  
12 exhumed tissues in arriving at that classification?

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12 A. Well, I would have assumed  
13 that if the exhumed babies had shown no digoxin  
14 being present, they probably would not have con-  
15 cluded that they had probably been murdered. I also  
16 would have assumed, as I said before, if a normal  
17 control baby had been exhumed and had the same  
18 level of digoxin in his body as Lombardo or any other  
19 baby, you wouldn't use that evidence either.

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19 Q. Could I ask you what you  
20 meant by one of the sentences in your speech. It is  
21 on page 10 of the text which we have marked as an  
22 exhibit.

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23 On page 10, a little way short of  
24 halfway through the first paragraph on the page, you

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said:

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"In short, a research procedure was used to answer a very important question long before it was appropriate to do so, but in contradistinction to what I have been saying, this was done for political rather than academic reasons."

Can I ask, please, what did you intend to convey by the assertion that what was done was for political rather than academic reasons?

A. Well, I think I covered that briefly this morning. I was talking to a group of academicians and talking about academic things. I gave examples. The last example was not academic, so I said, in contradistinction to that, it was done for political reasons. I probably should have used the word "legal". I might have used the word "governmental". I certainly did not mean to impute that, as was reported in the press, the Attorney General exhumed the babies for political reasons, and I didn't say that.

As I said again this morning, when a physician does something in his professional line of business, it is medical; when a politician does





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something or a government official does something in his line of business, it is political or governmental, and in no way did I mean the word "political" in any pejorative sense, and I apologize for using it if it has offended some people.

Q. Well, at the time you gave your speech, Dr. Macklem, were you aware of the circumstances in which the exhumations began?

A. Well, I was aware to the extent that the Attorney General requested permission to exhume the babies.

Q. That is certainly under the legislation, that the Attorney General is required to sign the exhumation order, but did you know what the genesis of the idea of exhuming these babies was?

A. No.

Q. You were not aware that the first exhumation suggestion came from a parent of one of these children?

A. No.





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Q. The evidence we have heard is that Mr. Hines wanted to know if further information about his son's death might be obtained by examination of tissue after exhumation and that, as we have heard in evidence here was the genesis of it. You are not aware of that?

A. No.

Q. Were you aware of the circumstances of the second exhumation, that of Baby Lombardo, which was felt in light of all the circumstances surrounding it, to be in the interests of justice that an exhumation of that child might or might not disclose any indication that digoxin was involved in its death at a time when Nurse Nelles was on vacation?

A. Was I aware of that?

Q. Yes.

A. No.

Q. Were you aware that the program of exhumations, upon which the police and the Centre for Forensic Sciences embarked following the preliminary hearing, was undertaken in the hope that it might provide answers if they were available to the question of how many and which of the large crop of corporate deaths may have had some digoxin





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2 involvement?

3 A. I'm sorry, would you repeat  
4 that question?

5 Q. Were you aware that this whole  
6 program following the preliminary inquiry, the whole  
7 program of exhumations was undertaken with a hope  
8 to finding out, if you could find out, how many  
9 of a very large number of deaths might have had some  
10 digoxin involvement in them?

11 A. Yes, I think I was aware that  
12 that was the reason that the babies were exhumed.

13 Q. Whether that question is  
14 susceptible to reliable answer with ~~the~~ technique  
15 or procedure that was used or any other, whether  
16 or not a satisfactory and reliable answer may be  
17 obtained, do you regard that as an inappropriate  
18 question to want answered?

19 A. Yes, but if one of the  
20 parents had come to me or the Attorney General or  
21 anybody else for that matter and said: "Should we  
22 exhume the babies?" I would have said: "Certainly  
23 not."

24 Q. ~~Unhappily~~ happily they didn't have the  
25 foresight to come to you, Dr. Macklem and they  
26 proceeded according to their own <sup>lights</sup> ~~likes~~.





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2 Were you aware it was a scientist and  
3 in ~~the main~~ *birth* Mr. Cimbura who called an end to the  
4 exhumation program on the basis that on the present  
5 state of the art there was no helpful information  
6 to be gleaned from the analysis of exhumed tissues  
7 of babies who in life had digoxin prescribed for them?  
8 Were you aware of that when you delivered your  
9 speech?

10 A. Not at the time I gave my  
11 speech, but in Dr. Stewart MacLeod's testimony at  
12 page 4464, and I quote:

13 "In fact it is this intrinsic  
14 uninterpretability of post mortem  
15 tissues that led us to believe that  
16 the police and the coroners should  
17 stop exhuming bodies."

18 Q. Yes. When did you first see  
19 that?

20 A. Oh, I saw that this weekend.  
21 I did not know that at the time. I am saying that  
22 it was apparently physicians at the Hospital for  
23 Sick Children who persuaded the police to stop  
24 exhuming bodies.

25 Q. With respect, that is not what  
Dr. MacLeod said in the passage you read. He said





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that they came to the conclusion it was useless.

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There's no indication there that there was any

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urging or persuading going on is there?

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A. "That led us to believe that

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the police and the coroners should stop exhuming

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bodies."

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Q. Yes.

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A. I presume he conveyed that

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opinion to the police and the coroner.

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Q. That is another assumption --

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A. Yes.

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Q. -- you make on the basis of

what you read.

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May I refer you to a summary which

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we have in evidence, Dr. Macklem. This is from

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the police report, Mr. Commissioner, and the exhibit

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number I confess I have now forgotten.

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THE COMMISSIONER: The police

report?

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MR. LAMEK: The expurgated police

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report, yes.

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THE COMMISSIONER: It is 432.

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MR. LAMEK: 432; thank you, sir.

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Is there a witness copy of that? Thanks,

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Mr. Registrar.

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2 Q. I should tell you, Dr. Macklem,  
3 that in the early part of 1983, following a great  
4 deal of further investigation by the police, the  
5 police wrote a report to the Chief of Police  
6 here in Toronto, a copy of which also went, as I  
7 understand, to the Attorney General and an expurgated  
8 version of it has been filed as an exhibit here.  
9 That is the document you have before you, reporting  
10 on the investigation of this whole matter.

11 At page 67 there begins Appendix 4  
12 on the subject of exhumations. At the bottom of  
13 page 70 the police list the priorities they  
14 established for exhumation and then at the top of  
15 page 71 lists those children who actually were  
16 exhumed and then there is a summary that I want to  
17 draw to your attention and ask about your awareness  
18 of these facts.

19 "The samples from autopsy were  
20 tested by the Toxicology  
21 Section, of the C.F.S. and  
22 the results were reviewed and reported  
23 by Mr. Cimbura.

24 All specimens were 'positive' for  
25 digoxin. However, in most cases  
Mr. Cimbura thought the results as





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"'inclusive' with regards to being able to ascertain the amount of digoxin that had been administered. The only conclusive facts were that Belanger, Hines and Lombardo were never prescribed digoxin and Woodcock and Onofre had not been receiving digoxin for several days prior to their deaths.

Lombardo and Hines have earlier been commented on, Belanger was the third baby not prescribed the drug and yet was found to have digoxin in his tissues.

With respect to Belanger, Mr. Cimbura stated:"

And they set out the note I read to you this morning from his report.

"In regards to the other babies exhumed Mr. Cimbura made basically the same comment as above, the final word being that the results are inconclusive in respect to determining if the babies had received a fatal overdose of digoxin.





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"The Centre of Forensic Sciences were not in a position to compare their findings with others reported in any literature as these were the first tests ever done in the world with respect to Digoxin assays of exhumed and preserved tissue samples. This makes interpretation very difficult in view of the unknown effects of burial, decomposition, embalming and the preserving mediums used. After the results of the Onofre exhumation it was decided by the experts and the investigators that further exhumations would serve no useful purpose at this time, and therefore no further exhumations are anticipated."

Were you aware that was the course of this exhumation program at the time you made your speech, Dr. Macklem?

A. No, but those <sup>cm</sup> inclusive results were absolutely predictable prior to any exhumations being done in the first place.

Q. Well, unhappily people did





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not have your foresight, but with the greatest of respect, you did not in your paper criticize these people, did you, for embarking on a futile exercise?

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A. Yes, I did criticize them.

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Q. It seems to me the paper must speak for itself. I suggest to you, however, that you were criticizing them for making a use which you assumed they had made of results derived from what you regarded as utterly inadequate research. Is that not what you intended to do in your paper?

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A. What I intended to point out in my paper was that no useful results could have been obtained from exhuming the babies. I was talking about the general subject of the paper was the premature introduction of research procedures to diagnostic tests. So although quite clearly what I had in mind was they shouldn't have exhumed the babies in the first place; it wasn't much point in saying that in the speech, because it wasn't what the speech was about.

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Q. Knowing what you now know and, indeed, there was not the application of these results that at the time you believed there to have been, would you agree with me that the type of situation with which we are concerned doesn't bear





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2 upon the subject matter of your paper at all?

3 A. Well, I think if you are going  
4 to exhume babies and make tests on them in the  
5 hope that you are going to get evidence one way or  
6 the other, that the statement that important decisions  
7 were based on hopelessly inadequate research is  
8 correct, and as you stated, and as I pointed out  
9 to you earlier, you told me that, taking all the  
10 evidence together, that you thought it was likely  
11 that the Lombardo baby had been murdered. I doubt  
12 that you would have made that statement if the  
13 Lombardo baby had had no digoxin level found in it.

14 Q. Let me be clear. I advised  
15 you that was the classification of that child  
16 reached at a meeting to which I have again referred  
17 in the course of your evidence this afternoon, did  
18 I not?

19 A. I guess so, if you tell me  
20 you did.

21 Q. I didn't classify the baby  
22 in that way, in other words.

23 A. You told me that the baby was  
24 classified.

25 Q. That is right.

A. That is correct.





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Q. In light of all of the  
information.

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Dr. Macklem, you made certain  
assumptions in writing this portion of your paper,  
did you not? You assumed, or at least one must  
believe you assumed from the language that you used,  
you assumed that the test and the procedure  
developed by the Centre for Forensic Sciences was  
designed to detect digitalis overdose or if not,  
was designed to produce data from which a conclusion  
of overdose could be brought. That was an assumption  
on which you operated.

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A. That was an assumption on  
which I operated, but if that assumption is  
incorrect there is absolutely no point in exhuming the  
babies in the first place.

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Q. That may be so, but that is  
an assumption upon which you operated, is it not?

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A. Yes.

Q. You also operated on the  
assumption, did you not, based on your reading of  
press reports that decisions were made as to over-  
doses having been administered in children, having  
been killed on the basis of the test results from  
the Centre for Forensic Science?





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A. I didn't specify what the decisions were.

Q. I know you did not. I know you didn't identify those decisions, but wasn't that one of your assumptions?

A. It was in the back of my mind the decisions had been made as to whether it was likely that the babies had been murdered as a result of the exhumations and other evidence.

Q. You didn't say anything about other evidence, did you?

A. Well, this is one of the bits of information upon which the decision is based.

Q. You agreed with me this morning when I characterized this passage of your speech as strong stuff and a serious indictment of the scientists at the Ontario Centre for Forensic Sciences, did you not?

A. It is strong stuff.

Q. You accepted my characterization of it. You intended it to be strong stuff. You chose your words carefully.

A. Yes, for reasons that I went into.

Q. Did you not think it





1  
2 appropriate before setting out that indictment  
3 of those people to make some enquiry as to just  
4 what they had done and why they had done it?

5 A . No, because without doing  
6 controls the results of the exhumations can be  
7 determined before the exhumations were ever done to  
8 be worthless.

9 Q. That may be, Doctor, but  
10 with respect that is what you said, isn't it?

11 A. That is what I said. I didn't  
12 say it, but that is why I said it.

13 Q. That may be why you said, but  
14 it is not what you said is it? You didn't say  
15 these people embarked upon an exercise in futility.  
16 You said these people did hopelessly inadequate  
17 research and decisions were made on the basis of it,  
18 did you not?

19 A. I said that.

20 Q. And before saying that would  
21 it not have been prudent and forgive me perhaps  
22 even courteous to make some enquiry as to what was  
23 done?

24 A. I did make some enquiry as  
25 to what was done. As I told you, I showed the  
speech ahead of time to two physicians at the





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Hospital for Sick Children, so that its accuracy could be determined and there was one change which was suggested to me, which I included.

Q. You thought it appropriate to make no more enquiry than that?

A. I thought they would be knowledgeable.

Q. Is it fair, Dr. Macklem, in your view and, indeed, in a paraphrase of your words, to describe your criticism of the forensic scientists in the Centre for Forensic Sciences as an appalling example of where extravagant statements are based on hopelessly inadequate research?

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A. Well, I think the research was inadequate.

Q. Your research? I am now talking about your statement here.

A. Oh! I'm sorry, would you repeat the question.

Q. Yes. I asked whether you, in light of what you have told me about the assumptions you made and the enquiries you made, it might not be fair in your view and in a paraphrase of your language to say that this passage of your speech is an appalling example of extravagant statements based on hopelessly inadequate research.

A. I wouldn't have thought that my research was hopelessly inadequate.

MR. LAMEK: Thank you very much.

A. All I needed to know was that normal babies had not been exhumed.

MR. LAMEK: Thank you, sir.

THE COMMISSIONER: Mr. Atkinson.

The procedure is that you may go on now and you will also be asked after all the evidence for cross-examination.

MR. ATKINSON: I just have one question I would like to ask Dr. Macklem, one





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2 subject, sir. It might be appropriate if I deal  
3 with it now and, hopefully, I won't have any  
4 questions later.

5 EXAMINATION BY MR. ATKINSON:

6 Q. Dr. Macklem, over the  
7 weekend, did you review a good deal of material that  
8 was provided to you by Mr. Lamek with respect to the  
9 hearings of this Commission?

10 A. Yes.

11 Q. And in particular, did you  
12 have an opportunity to look at the transcripts of  
13 Mr. Cimbura, Mr. Cimbura's evidence?

14 A. Yes.

15 Q. Various reports, one being  
16 the Centre of Forensic Sciences' report?

17 A. Yes, that's right.

18 Q. Did you see that?

19 A. Yes.

20 Q. Did you see Exhibit 398, a  
21 bound volume of documents circulated to the partici-  
22 pants, of the meeting of the Digoxin Expert Panel  
23 held on March 19, 1984?

24 A. Yes.

25 Q. And did you review Dr.  
McLeod's testimony?





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A. Yes.

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Q. And based on all of that,  
that particular review, is the point of view that  
you were attempting to advance in your paper and  
which you have advanced here today changed in any  
way?

A. No.

MR. ATKINSON: Thank you. Those are  
my questions.

A. I will admit the speech was  
given with strong language and, as I have said  
before, I apologize to anybody I offended. I used  
strong language because I tried to get the message  
across before and other people have not listened.

THE COMMISSIONER: Thank you.

Now, it is almost ancient history,  
but I would think in the ordinary course, Mr. Brown,  
you would be next.

MR. BROWN: Yes. I have no  
questions of the witness.

THE COMMISSIONER: Miss Rae.

MS. RAE: Yes, I have questions.

THE COMMISSIONER: Mr. Roland.

CROSS-EXAMINATION BY MR. ROLAND:

Q. Doctor, you said that with





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respect to this --

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MS. RAE: I'm sorry, I said I had  
some questions.

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THE COMMISSIONER: Oh, I beg your  
pardon. I take it back. I am sorry. It is either  
your quiet voice or my old ears, but I thought you  
were rejecting the opportunity.

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Yes, Miss Rae.

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CROSS-EXAMINATION BY MS. RAE:

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Q. Dr. Macklem, I just want to  
qualify in my own mind some of the things you said  
this morning so I am sure I understand the import of  
them.

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Your position is that --

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THE COMMISSIONER: Just a moment.

16

Yes?

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MR. LAMEK: Excuse me, perhaps you  
would like to let Dr. Macklem know for whom you act.

18

MS. RAE: Thank you.

19

I am Patricia Rae and I act for  
Nurse Phyllis Trayner.

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Q. Your view is that the problem  
with digoxin levels found in exhumed tissues in the  
absence of the controls that you have spoken about is  
that there is unexplored the possibility that digoxin





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might be found in the bodies of children to whom none had ever been administered during life; have I got that correctly?

A. I think that is a possibility.

Q. Thank you.

Now, to explore another area. Mr. Lamek has already pointed out to you some of the caveats that have been given by various scientists involved with respect to putting any quantitative interpretation on digoxin levels found in exhumed tissue. I would just like to seek your opinion as a scientist.

If we assume that digoxin was found in exhumed tissues - and in this case, if we assume it had been given in life; it is there because it had been administered in life - if the only ranges of the digoxin levels that we can relate back to, either therapeutic doses, or toxic doses, have been obtained in fresh autopsy tissue, would you agree with me that these ranges cannot safely be applied to the results of a limited number of exhumations without any further normal ranges being explored?

Do you understand me?

A. Yes, I would agree with that. I am not an expert on digoxin but unless you know





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what the normal level is, you cannot possibly  
interpret an abnormal level.

Q. Specifically, if you do not know  
the dessication and decomposition that has occurred  
and you cannot relate back the level found to a figure  
obtained in fresh autopsy tissue with any degree of  
confidence?

A. I would presume so.

Q. Also, this has now been  
mentioned twice, Mr. Lamek, you indicated, had said  
to you with respect to Lombardo, taking all the  
evidence together, certain people had come to the  
conclusion that Lombardo was murdered. Am I correct  
in understanding that your position is that the  
finding of digoxin in Lombardo's tissues on exhumation,  
in the absence of the controls that you have  
described as being essential, really added nothing to  
any other evidence that may have been accumulated?

A. That is correct.

MS. RAE: Thank you. Those are all  
my questions.

THE COMMISSIONER: Yes. Thank you,  
Miss Rae.

Yes, Mr. Roland.

MR. ROLAND: I think I am next.





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2 THE COMMISSIONER: Yes.

3 CROSS-EXAMINATION BY MR. ROLAND:

4 Q. Doctor, there are just a  
5 couple of questions.

6 You indicated to the Commission that  
7 after you wrote this paper in draft form and before  
8 you delivered it, you did speak to and show at least  
9 a couple of portions of it to a couple of physicians  
10 at The Hospital for Sick Children. I take it the  
11 purpose of that was to determine that you had your  
12 facts right about there not being any controls in  
13 the testing.

14 A. That, and I wanted to know  
15 in particular whether animal studies had been per-  
16 formed.

17 Q. Yes. And it was for that  
18 purpose; that there were no controls, human tissue,  
19 exhumed human tissue, or animal studies of exhumed  
20 tissue, that you asked a couple of physicians at The  
21 Hospital for Sick Children to look at that part of your  
22 speech?

23 A. That is correct.

24 Q. I take it --

25 A. One of the physicians looked  
at the whole speech.





1  
CC8 2 Q. I see. We are, happily,  
3 not concerned about more than this part of your  
4 speech.

5 A. Thank heavens!

6 Q. I take it that they confirmed  
7 to you that, to their knowledge, no such animal  
8 experiments had been performed, and to their knowledge  
9 no controls had been done on exhumed tissues from  
infants who were known not to be on digoxin?

10 A. Yes.

11 Q. I take it that was the only  
12 purpose for them to look at the speech?

13 A. Well, to comment also on  
14 other things that I said.

15 Q. I am just talking about this  
16 part.

17 A. To comment on the whole  
18 paragraph.

19 Q. Did you ask them to comment,  
20 not on the facts but on the opinions you drew from  
the facts?

21 A. No. I didn't specifically  
22 ask them to comment on the opinions I drew from the  
facts.

23 Q. And I take it they didn't  
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comment on those opinions one way or the other?

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A. No. They both said they  
agreed with them.

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Q. Agreed with the opinions or  
agreed with the facts?

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A. Agreed with the opinions.  
This came up both before and after the speech. In  
fact, many physicians, after the speech, said that  
they agreed with my opinions.

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Q. Well, for instance, let's  
deal with the issue of political. You have told us  
you thought, I gather, that was an ill-advised word  
and that wasn't what you meant. I take it these  
two physicians from The Hospital for Sick Children  
didn't tell you they agreed with the use of the word  
"political"?

16

A. No, they didn't specify that.

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Q. And they didn't tell you, I  
take it, specifically that they agreed with the  
adjectives you used, the adjective "appalling" as an example.  
They didn't specify, did they, that this was an  
appalling example?

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A. I didn't ask them if they  
agreed with the word "appalling" but, however, they  
agreed with the general gist of my opinions.





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Q. And that is the opinion that you couldn't rely on the exhumed results without controls?

A. And that it was very unfortunate that this thing had received such wide publicity based on research which they would agree with me is inadequate.

MR. ROLAND: Those are all my questions.

THE COMMISSIONER: Yes. Thank you. Miss Chown?

MS. CHOWN: No questions. Thank you.

THE COMMISSIONER: Miss Symes?

MS. SYMES: Yes, Mr. Commissioner.

CROSS-EXAMINATION BY MS. SYMES:

Q. Dr. Macklem, my name is Beth Symes and I represent 39 of the individual nurses who are involved with The Hospital for Sick Children.

Can I just understand, looking at the chart that you have drawn there, that you are telling us that the tests done by Mr. Cimbura on exhumed tissues of three children, Lombardo, Belanger and Hines, to test for the presence of digoxin may well be both sensitive and specific?





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A. I suppose it might be, but it  
might be very insensitive and totally non-specific.

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Q. I was just going to come to  
that. That is a possibility; that the test that he  
devised, I gather, that he would, in the forefront of  
designing this test, may be both sensitive and  
specific?

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A. It might be, I have no idea.

9

Q. But because -- the next  
thing is, because there were no controls; that is,  
there was no testing done on the children who clearly  
did not die of digoxin overdose, and for whom digoxin  
had not been ingested by them during life, you can't  
say one way or another whether or not his tests are  
either specific or sensitive?

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A. That is correct. But even  
if he had the controls, he wouldn't be able to  
determine the sensitivity, because in order to  
determine the sensitivity you have to have a group of  
patients who you know have the condition in question,  
and the exhumed babies, they are doing to find out  
whether they have the condition in question, not  
because you know they have it. That is why animal  
experiments would be of great help in this matter.

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Q. Dr. Macklem, is there also

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a possibility that the results of the three children may, in fact, be false positives; that is, the upper right-hand portion of your diagram?

A. Yes, that is possible.

Q. Is it also a statistical problem that the sample consisted of three children; that is, it being a small number?

A. It is very difficult to do statistics on the number of three.

Q. So, in other words, sir, is your paper, whether or not it was in very strong language, or your evidence here today to this Commission, that we should take with caution the results of positives on digoxin findings in Lombardo, Belanger and Hines?

A. I would state it more strongly than that.

THE COMMISSIONER: I thought it was considerably stronger than that, too.

A. It is not just caution; the results are worthless.

MS. SYMES: Q. They may, in fact, turn out -- if animal studies are done to show them to be both sensitive and specific, they may turn out to be valid?





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A. If animal results were to show that the tests were both sensitive and specific, then you would have some reason to believe that those levels were not false positives; but there is an enormous extrapolation from animal studies to humans. So, you would certainly have to accept those results with considerable caution.

Q. And as you say, as far as you know, no such tests have even been done on animals?

A. That is correct.

MS. SYMES: Those are my questions.  
Thank you.

THE COMMISSIONER: Thank you.

Now, I guess we go to Mr. Labow, Mr. Tobias and Mr. Shanahan, respectively; is that appropriate?

MR. LABOW: Mr. Commissioner, I can't pass up this opportunity.

THE COMMISSIONER: Yes. All right.  
I just want to welcome you back; that is all.

CROSS-EXAMINATION BY MR. LABOW:

Q. Doctor, I thought you said that it is feasible to take values from literature to determine, in order to work out some kind of chart





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like that, to determine the specificity and the sensitivity of the test. Is that possible?

A. I was talking about the digoxin levels measured in blood, heart and other tissue from the autopsied babies; that you can't do it for the exhumed babies. But for the autopsied babies, I believe that it might be feasible from measurements already available in the literature to determine the sensitivity and the specificity of those tests and, then, once you have done that, and with the help of people who are more expert in this field than I am, come up with some idea of the predicted prevalence in the population under study, which would then allow you to make a probability, a firm probability statement as to whether babies had been murdered or not murdered, or overdosed or not overdosed, or given digitalis or not given digitalis.





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In fact, I feel very strongly that the Commission ought to carry out this exercise because if they don't they are going to be subject to criticism for not having done it. This is a standard way of proceeding in diagnostic medicine.

THE COMMISSIONER: I want to go a way off the track. I know it is when you are about to criticize the Commission but --

THE WITNESS: No, I am not, sir, excuse me.

THE COMMISSIONER: No, I know you are not. That was a joke and I make poor jokes all the time. I really wanted to know what result your wife had?

THE WITNESS: Oh, yes, I am now leaving tomorrow morning.

THE COMMISSIONER: And you don't mind, you would prefer I trust that we complete it today?

THE WITNESS: If we could get it over with today, I would certainly prefer it.

THE COMMISSIONER: Well, we can certainly get it over with by tomorrow morning. Yes, all right, carry on, Mr. Labow.

MR. LABOW: Q. Now, I assume that can't be done to the exhumed babies because there is





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no literature on exhumed babies?

A. That's correct.

Q. But that's the only reason it can't be done. You couldn't use literature to develop this kind of criteria because there is none.

A. I really don't know how to do it in exhumed babies because, first of all, you've got to have a group where you know have the condition. I suppose there may be a group of babies that you could identify - we are way out of the realm of fantasy now - who we knew died of digitalis overdose and another group that were not involved in any medical/legal problem, another group of babies who did not die of digitalis overdose and you could exhume all of those babies and determine sensitivity and specificity. This is within the realm of possibilities but I would think it is very likely to happen.

Q. Okay. Now, you commented that if the tests were solely designed to detect digoxin as opposed to detecting digoxin overdose, then you felt there was no point in exhuming the babies?

A. That's correct.

Q. Now, if the tests are valid in that what they are detecting is digoxin, you are





Macklem, cr.ex.  
(Labow)

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2 going to have to follow this assumption along. If  
3 the tests are valid so that what they are detecting  
4 is digoxin and if the experts in digoxin say that  
5 although it might occur endogenously and only occurs  
6 in minute amounts, then if this test was done to see  
7 if children not on digoxin had more than those amounts  
8 in them, how can you say it is useless?

8 A. Well, you have added a whole  
9 bunch of assumptions there such as endogenous  
10 digoxin, the production being negligible, that may  
11 be the case in living babies but I have no idea  
12 whether that's the case in embalmed or non-embalmed  
13 and buried babies. So, I don't accept that assumption.

13 Q. Well, I am asking you to  
14 accept that as a hypothesis. If you accept --

15 A. But I don't.

16 Q. -- is it still useless to --

17 A. Well, first of all, I don't  
18 accept it.

19 Q. I am not asking you to accept  
20 it. I am asking if you could accept it?

21 A. If you knew that babies who  
22 did not die of digitalis poisoning or die of  
23 digitalis having been administered pre mortem, had  
24 no digoxin in their bodies when they were exhumed,  
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2 then you know that there are no false positives and  
3 if you know there are no false positives then you are  
4 in a very strong position to make some diagnoses,  
5 if you wish, in babies exhumed in whom digoxin is  
6 found because when there are no false positives and  
7 the specificity is 100 per cent, that is exceedingly  
8 useful for ruling in a diagnosis. When you get a  
9 positive result you know it is not a false positive  
result, therefore, the condition must be present.

10 Q. I understand. Now, all I am  
11 asking you to do is accept this one hypothesis.  
12 Accept from me that in an exhumed baby who is not  
13 on digoxin the most you would find is a minute trace?

14 A. Well, let's take 100 exhumed  
babies.

15 Q. 100 exhumed babies, fine.  
16 And if that's the case, is it still useless to exhume  
17 them to see what the levels are?

18 A. No.

19 Q. So, if that kind of test is  
20 done, then the exhumations might demonstrate something.

21 A. Yes.

22 MR. LABOW: I have no further questions.

23 THE COMMISSIONER: Okay, thank you.

24 Mr. Tobias?  
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2 MR. TOBIAS: I can't pass up the  
3 opportunity of asking some questions.

4 CROSS-EXAMINATION BY MR. TOBIAS:

5 Q. Dr. Macklem, I represent the  
6 family of Jordan Hines. I note in your paper that  
7 you confine yourself exclusively to comments to  
8 tests done on exhumed tissue.

9 A. That's correct.

10 Q. All right. Now, I also under-  
11 stand that over the weekend you have had the  
12 opportunity to read some of Mr. Cimbura's evidence  
13 and to look at the report prepared by the Centre  
14 of Forensic Sciences, so, you must be aware that some  
15 of the conclusions that were made were made on the  
16 basis of tests done on ante and post mortem blood and  
17 on tissue fixed at autopsy?

18 A. Yes, I was aware of that before.

19 Q. All right. Is it fair to say  
20 that your criticism of the procedures followed and  
21 the lack of control is directed only at the tests  
22 done on exhumed tissue?

23 A. That is correct.

24 Q. So, you are not criticizing  
25 any of the procedures followed on fixed tissue or  
26 ante or post mortem blood samples?





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A. Not at all.

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Q. All right.

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A. But that information on ante/  
post mortem blood levels and tissue levels can be used  
to get further additional very valuable information  
as to the probability or the predictive accuracy of  
the results and that has not yet been done, to the  
best of my knowledge and I recommend that it should  
be done.

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Q. You are saying that if we did  
the further tests, post and ante mortem blood and  
on fixed tissues using controls, we would have  
even better information, but you are not going so  
far as to say, not having done that, that the  
information we have is useless.

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A. The information you have on  
autopsy materials, living post mortem blood and  
tissues is, as far as I can see, completely accurate.

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Q. Fine.

A. You can carry that information  
further and get additional information without doing  
any further experiments, at least, it might be  
feasible that you can.

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Q. Now, do I understand that your  
comment with respect to exhumed tissue the testing





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2 done was useless as based upon what you perceived to  
3 be the information that they wanted to extract from  
4 those results?

5 A. My information was that tests  
6 were being done on exhumed babies which had not  
7 previously been done on exhumed babies. That  
8 information I had before my speech which I got from  
9 the media and as a scientist I would say apriori  
10 that such tests would be useless unless you have a  
control group.

11 Q. All right. But in making that  
12 statement are you not assuming that what you wanted  
13 to guarnor from those tests was information that would  
14 allow you to make quantitative estimates about the  
amount of digoxin in tissue?

15 A. No, no, no, I am not making  
16 an assumption at all; whether it is quantitative or  
17 qualitative, the information cannot be interpreted  
18 without control data.

19 Q. Did I misunderstand you earlier  
20 this morning when you indicated you would not quarrel  
21 with Mr. Cimbura's findings regarding the presence  
of digoxin. Do you accept that --

22 A. No, I don't quarrel with that.

23 Q. All right, let me finish the  
24  
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2 question, let me finish the question.

3 A. Yes.

4 Q. Assuming that all we are saying  
5 as a result of those tests was that what was found  
6 was digoxin, you don't quarrel with that?

7 A. No.

8 Q. So, in that sense it is not  
9 a useless procedure, it helps us find out whether  
10 there was digoxin in the tissues. Am I correct?

11 A. If that's useful. I don't  
12 think that's useful.

13 Q. That's my point, Doctor, you  
14 have to make an assumption about what is useful and  
15 what is not useful before your criticism is valid,  
16 isn't that so?

17 A. All right, fine, I guess that's  
18 correct.

19 MR. TOBIAS: Those are all my questions.

20 THE COMMISSIONER: Mr. Shanahan.

21 MR. SHANAHAN: Yes. Dr. Macklem, my  
22 name is Frank Shanahan and I act for the parents of  
23 the Lombardo and Dawson children.

24 Mr. Commissioner, I feel if I were to  
25 give you submissions on it or wait to be given this  
evidence subject to what Mr. Lamek has established and





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2 what I think Mr. Hunt will establish I don't think  
3 I am going to ask any questions here.

4 THE COMMISSIONER: No.

5 MR. SHANAHAN: If you want to entertain  
6 submissions at a later point as to whether I would --

7 THE COMMISSIONER: Well, depending upon  
8 the hour we finish, I am going to perhaps suggest we  
9 either have oral or written argument supplementary  
10 to previous argument based upon Dr. Macklem's  
11 evidence.

12 MR. SHANAHAN: I could do that on the  
13 basis of what Mr. Lamek has done and what I think Mr.  
14 Hunt will establish.

15 THE COMMISSIONER: All right, thank you.

16 Now, I take it no one else has come  
17 back from our previous roster.

18 Now, gentlemen, which of you will go  
19 next. Mr. Young, are you next?

20 MR. YOUNG: I may have a few questions  
21 for the Doctor but my friend Mr. Hunt will precede  
22 me.

23 THE COMMISSIONER: All right, thank  
24 you.

25 MR. HUNT: Sir, I have been asked to  
move the podium over.





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THE COMMISSIONER: Yes. Well, we will  
take our break now. We will take 20 minutes then  
I think.

---Short recess.

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RD/ak

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3 --- Upon resuming.

4 THE COMMISSIONER: Yes, Mr. Hunt.

5 CROSS-EXAMINATION BY MR. HUNT:

6 MR. HUNT: Yes, thank you.

7 Q. Doctor, my name is Hunt and  
8 I represent along with Miss Cecchetto the people  
9 who have been affected most by the remarks you made  
10 last week and that is Mr. Roy McMurtry, the Attorney  
11 General, Mr. George Taylor, the Solicitor General and  
12 Mr. George Cimbura, the scientist who did the tests.

13 So there is no doubt in your mind,  
14 as to where I am coming from, I say to you at the  
15 outset, these gentlemen have perhaps the strange  
16 notion that they ought not to be sacrificed, because  
17 of your desire to attract the interest of the media  
18 in the point that you were making to your conference  
19 last week, and if I can summarize the motives that  
20 you had in packaging your point in the way that you  
21 did last week. It seems to me from your evidence  
22 that you have said you had a point that you wanted  
23 to make. You tried a year and a half ago to make it  
24 by writing to the Globe and Mail. You believed  
25 in it very strongly and the media didn't pick up  
on it at that time. You became angry about that and  
you stated your point very strongly last Monday in





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Montreal, knowing, not only that the media were present, but that by stating it strongly you were going to get the media's attention and you were going to do what you didn't do a year and a half ago.

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MR. ATKINSON: Mr. Commissioner, is this a speech or a question? Surely my friend is entitled to ask questions, but not to give speeches. I haven't yet heard a question.

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MR. HUNT: My friend may have missed the first part. I said that I was summarizing for him what I understood his evidence on the motive to be and I am going to ask him if he agrees with that.

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MR. ATKINSON: I don't think that was a summary of what he said. It is a summary of my friend's interpretation of it and I submit, Mr. Commissioner, that he ought to ask a question and get on with it.

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MR. HUNT: He can agree or disagree with my summary.

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THE COMMISSIONER: I only hope we will be getting to the question shortly.

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MR. HUNT: Q. Well let's get down to that point. Am I reasonably accurate down to that point?





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A. Can I respond to that question  
by telling you what my motives were?

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Q. Why don't you first tell me  
whether I am reasonably accurate in my summary of  
what you told us this morning as to your motives  
and then you can go on and explain it further in any  
way you want.

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A. I suppose it depends upon the  
implications that you are going to draw from what  
you state. I would certainly state my motives in a  
different way.

12

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Q. You still haven't answered it.  
Is that a reasonably accurate summary of what you  
told us this morning?

15

16

MR. ATKINSON: It wasn't a summary  
of what he said this morning at all. It wasn't even  
close.

17

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MR. HUNT: I'm sorry, if you want  
to be sworn in later I will ask you the same question.

19

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MR. ATKINSON: I thought you were  
testifying.

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MR. HUNT: This is directed to the  
witness.

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THE COMMISSIONER: Yes, but your  
comment should be directed to the Commissioner.





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MR. HUNT: Yes, I'm sorry, I  
apologize for that, sir.

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THE COMMISSIONER: Now, the rules  
are that when you are asked a question you should  
answer the question. There are no rules that  
prevent you from answering, given your interpretation  
of the facts, or your motives or anyone else in the  
course of answering the question. What was put to  
you is is it reasonably accurate and you can say yes,  
you can say no, or you can say maybe, or you can go  
on to explain whatever way you like.

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THE WITNESS: Thank you,  
Mr. Commissioner. My answer, therefore, is maybe.

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My motives were that I felt that  
there were problems in the interpretation of the  
results from exhumed babies and that there was  
additional information that could be obtained from  
autopsied babies which, so far as I was aware, had  
not been obtained, that I had tried to get these  
ideas across a year and a half ago and hadn't  
succeeded.

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I suppose there are many different  
ways I could have done it. I am very naive at  
getting messages across to public bodies, and  
certainly my attempts to communicate with officials





1  
2 in the Quebec Government haven't been terribly  
3 successful.

4 It is true that I gave a copy of my  
5 talk to the press prior to giving it and I held a  
6 press conference afterwards, but in light of my  
7 previous experience I was absolutely astonished at  
8 the reaction that took place. I did not expect  
9 to have created the furor that I apparently did  
create.

10 MR. HUNT: Q. I suggest that is  
11 because you didn't give one moment's concern to the  
12 individuals who would be undoubtedly harmed by the  
13 language that you chose to make your point in.

14 A. Well, I really apologize if  
15 I harmed them. I think the research was inadequate.

16 Q. My suggestion to you was you  
17 didn't give one moment's concern to the people who  
18 were going to be harmed by the language in which  
you chose to make your point.

19 A. I gave considerable concern  
20 as to what the reaction of the people would be. I  
21 knew that I was criticizing their research techniques  
22 and I knew that they probably wouldn't be pleased  
with that.

23 Q. We will deal with that in a  
24  
25





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2 little more detail in a moment and the extent to  
3 which you gave that concern, but I am going to  
4 suggest to you that last Monday when you got up  
5 to give your outgoing presidential address that  
6 your chief concern was to attract the attention of  
7 the media to the point that you had and that you  
8 had failed to get across to them a year and a half  
9 ago. That was your main concern, I suggest to you.

10 A. My main concern was to bring to  
11 the attention to this Commission what I think is  
12 appropriately the Commission's business.

13 Q. Do you have a copy of any  
14 letter that you wrote to the Commissioner, in the  
15 last year and a half when you set that out?

16 A. No, but as I told you, I spoke  
17 to Mr. Lamek and I probably didn't communicate  
18 with him very well. I missed that opportunity.

19 Q. You didn't follow up on it?

20 A. Well, I gave copies of the  
21 letter to Mr. Sopinka that I wrote to the Globe and  
22 Mail.

23 Q. Did you give any letter to the  
24 Attorney General or to the Centre for Forensic  
25 Sciences setting out your complaints about them?

A. No.





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Q. You correct me if I am wrong, but from your evidence today it is my impression that the chief source of reference that you had to test the accuracy of the comments that you were making was the newspapers.

A. The newspapers and information I obtained from discussions with physicians at the Hospital for Sick Children.

Q. We will get to those. I say your chief source of reference to test that accuracy was the newspapers?

A. No. I was unaware from any newspaper results whether control babies had been exhumed and I was unaware from newspaper commentary as to animal experiments had been done. Those were the two key bits of information that I needed.

Q. We can deal with that in a minute. Other than those two, your source of information was the newspapers?

A. Yes, that is correct.

Q. Would you agree that is hardly a very scientific way of going about researching?

A. That is correct.

Q. But you couldn't get the newspapers to get interested in the point that you





1  
2 had to make a year and a half ago?

3 A. That is correct. On the  
4 other hand --

5 Q. It is hard to see why you  
6 would be so reliant on them for your information.

7 A. I wasn't relying on them for  
8 the information I needed. I was right on the  
9 information I needed and, therefore, I did my  
10 research in those two areas quite correctly.

11 Q. So the major act then, as I  
12 understand it that you did to verify the comments  
13 that you were going to make, was to ask two doctors  
14 from the Hospital for Sick Children to read over the  
15 paragraph.

16 A. No. I wanted to know whether  
17 control babies had been exhumed and as to whether  
18 animals had been used as experimental subjects.

19 Q. Was that the information you  
20 were looking for from the doctors for Sick Children?

21 A. That was a large part of  
22 the information that I was looking for from the  
23 doctors, from the Hospital for Sick Children. I  
24 also asked them to read over, one of them to read  
25 over the complete draft of my speech, to give a  
reaction, and the other to look at the particular





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paragraph in question and to state whether he thought  
I had made my case accurately or not.

4

Q. Who were those doctors?

5

A. Dr. Charles Brian and  
Dr. Stewart MacLeod.

6

7

Q. Did you ask either of them  
to direct their minds to the language that you  
were using in that paragraph and to comment on that?

8

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A. Well, I asked Charles Brian  
to give me his general reaction to the whole talk.  
I asked Stewart MacLeod to read over the particular  
paragraph in question and to state whether he  
thought what I was saying was accurate.

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Q. It is my information that  
Dr. MacLeod advised you to tone down the language  
in that paragraph. Do you agree or disagree with  
that?

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A. I disagree with that. What  
Dr. MacLeod told me -- I originally wrote the  
speech in the following way:

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"They did not exhume any babies not  
thought to be poisoned and thus had  
no controls."

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He said to modify that statement to  
read:

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"They did not exhume any babies who died outside the cardiac ward not thought to have been poisoned and thus had no controls."

That is pencilled in in the speech as a result of what he told me. That, to the best of my recollection, is the only thing he told me.

Q. If it is his position that he advised you to tone the language down somewhat I take it you are in disagreement with him?

A. If he did that either I didn't hear him or I didn't understand.

Q. Now, am I correct that with respect to the testing that had been done on the exhumed samples at the time you gave your speech you weren't aware of the techniques that were being used by Mr. Cimbura, the research he had done into his techniques, the results that he came up with by the application of those techniques, nor the conclusions that he, himself, had arrived at?

A. I didn't need to be.

Q. My question -- if you have trouble with them you ask me to repeat it. My question was you weren't aware of any that?

A. That's correct.





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Q. And indeed you made no effort  
to find out?

4

A. I didn't need to. I did not  
make any effort to find out.

5

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Q. Now, as I understand your  
evidence today, you don't really criticize the  
techniques, the research into those techniques,  
the results or his conclusions?

7

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A. I do not criticize the research  
that he did do. I criticized the research that he  
did not do.

10

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Q. As I understand, you  
criticized the experiment?

13

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A. That's correct.

15

Q. As useless?

16

A. Yes.

17

Q. And you admitted to my friend,  
Mr. Tobias, here that you made a certain assumption in  
deciding what was useful and what was useless in  
adopting that position.

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DM/cr

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A. I suppose if you wish.

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But if you do an experiment without the control  
the results are uninterpretable.

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Q. Would you agree with me that  
you are looking at this, understandably, through your  
view of a physician/scientist?

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A. Yes.

8

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Q. And what is useful and useless  
to a police investigation may not be the same thing  
as what is useful or useless to a physician/scientist?

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11

A. It may not be in some instances,  
but it is in this instance.

12

13

Q. Let me give you an example.

14

If you were,

15

or someone you knew was charged with killing a child  
with an overdose of digoxin, and their position was  
they didn't do it; and Mr. Cimbura went out and  
exhumed the body tested the tissues, and found no  
digoxin. You would hardly claim that was useless?

16

17

18

19

A. Yes, I would.

20

21

22

Q. If you were charged with a  
murder you would tell your lawyer, that is a useless  
test, and we really are not interested in that  
information?

23

24

25

A. I suppose if it was me that was





1  
2 charged I would be pleased that they found no digoxin.  
3 But as a scientist I would not know whether the  
4 digoxin had disappeared from the body during the course  
5 of the burial period and that information, unless you  
6 have that information you cannot interpret the  
7 results.

8 Q. You will forgive the officers  
9 and the investigators then if they say to you that  
10 they were not dealing strictly as scientists, they  
11 were dealing with some real human problems here.  
12 Things that are useful and useless to a scientist  
13 may not be the same things that are useful and useless  
14 when you are dealing with an investigation into a  
15 human problem.

16 A. It depends upon the things you  
17 are talking about.

18 Q. Now the language that you chose  
19 to put your point across is really the source of the  
20 concern that my clients have. I suggest to you  
21 that when you used words like:

22 "...one of the most appalling examples  
23 that I know of where important decisions  
24 were based on hopelessly inadequate  
25 research..."

Given what you have said today you





Macklem, cr.ex.  
(Hunt)

1  
2 really didn't intend those words to apply to such  
3 factors as the techniques that were used in the testing;  
4 the research that was done into those techniques; the  
5 results or even the conclusions of the people  
6 involved as a result of those tests?

7 A. Well I believe I stated my  
8 position on this. I thought it was established that on  
9 the Lombardo baby decisions were made which were  
10 based, at least in part, on digoxin results. I  
11 thought I had made my point that the research was  
12 inadequate because no controls were done and therefore  
13 it could have been determined before the babies were  
14 exhumed that no valuable information could possibly  
15 be forthcoming.

3 16 Q. Did it cross your mind that you  
17 that you were looking out at the body you were  
18 addressing, with all the media there and their pens  
19 poised to say something about that. To say:

20 "By the way I don't want you to mis-  
21 interpret this and think I am attacking  
22 Mr. Cimbura for the efforts that he  
23 put into developing a methodology for  
24 testing this material. For going  
25 through the tests to determine that  
his methodology was accurate. For





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"coming up with the results, and for  
attaching conclusions to them as  
inconclusive as they were."

Did it cross your mind to say that  
to the people so that you were not creating a mis-  
impression?

A. I couldn't say that to people  
because I didn't know what Mr. Cimbura had done.  
But I did know he had embarked upon an experiment which  
was uninterpretable.

Q. That you considered useless?

A. Uninterpretable.

Q. That you considered useless?

A. Mm-mm.

Q. As far as you were concerned  
that is all you needed to know, you considered it useless  
and it didn't matter what other people considered --

A. No, no, I think that every  
scientist would agree that if you were going to use  
the test to detect something, that you have to have  
an experimental group and a control group. Unless  
you have the control group the test is useless.

Q. Well when you went on to  
say that:

"These scientists had not followed





1  
2 even the most basic rules of establishing a diagnostic  
3 test."

4 A. Yes.

5 Q. That is pretty strong language.

6 A. Yes, they didn't determine  
7 specificity and sensitivity of the test.

8 Q. Of course you had not enquired  
9 into that at that point. Did it cross your mind to  
10 make some --

11 A. I hadn't enquired into what?

12 Q. You hadn't enquired into what  
13 they had done at that point, testing the methodology --

14 A. I knew they did not do  
15 sensitivity and the specificity because they need  
16 control groups to do that.

17 Q. That is as far as your thinking  
18 took you, wasn't it, the control group?

19 A. No, it is not as far as my  
20 thinking took me. Because in order to establish  
21 sensitivity and specificity you have to have two  
22 groups, a control group who you know do not have  
23 the condition, and an experimental group in whom  
24 you know they do have the condition. The babies  
25 who were exhumed do not qualify in that group, and  
therefore the only way around that problem is to do





1  
2 animal experiments, and that is why I was very keen  
3 to know whether those had been done or not.

4 Q. What you are telling me,  
5 Doctor, is it really didn't enter your mind to make  
6 it clear to people who might be interpreting your  
7 comments that you were not attacking certain aspects  
8 of the scientists' work, such as the way they had  
9 developed their testing techniques; the way they applied  
10 it; the results they got, and the conclusions they  
11 reached?

12 A. No. I have absolutely no  
13 objection to the work that Mr. Cimbura has done in  
14 terms of looking at how digoxin levels fall in  
15 Klotz solution at different temperatures, and how it  
16 changes over time in fixed tissues, et cetera,  
17 et cetera. I think that is very fine work.

18 I suppose it might have occurred to  
19 me at the time of my speech to say that the only  
20 thing I am criticizing is the fact that there were  
21 no controls, sensitivity and specificity that could  
22 not be established, and so far as I knew there were  
23 no animal experiments, but I don't have anything that  
24 I know of against the rest of his work. In retro-  
25 spect I should have said that and I apologize for  
not saying it. But the topic of the speech was the





1  
2 premature introduction of diagnostic tests and so  
3 I stuck to the topic.

7  
4 Q. I take it you will agree,  
5 it might have occurred to you to make this kind of  
6 clarification if you had taken some further steps  
7 to enquire into just exactly what was done and how  
8 it was done and what the results were?

9 A. Yes. It might have occurred  
10 to me if I had done that.

11 Q. You mentioned that you held a  
12 press conference after your speech, and in an article  
13 in the Globe and Mail on the 11th of September, 1984  
14 which would have been last Tuesday, under the heading:

15 "M.D. Assails Digoxin Testing on  
16 Exhumed Babies".

17 You are quoted by the reporter in  
18 question as saying:

19 "I am not blaming the policemen but  
20 I am blaming the Ontario Attorney  
21 General (Roy McMurtry) and the  
22 Forensic Scientists who worked in his  
23 office."

24 What was the purpose of actually laying  
25 blame on the part of those two people at a press  
conference once you had delivered your speech?





1  
2 A. Yes. I really didn't have any  
3 purpose for laying blame but a reporter said:  
4 "Who do you blame?", which took me off guard, so that  
5 is what I said in response. I don't really want to  
6 blame anybody, but if you force me to blame somebody  
7 it is for doing an experiment which you knew in  
8 advance would not produce valid results. In other  
9 words the blame is for exhuming babies when you knew  
10 in advance that the exhumation would not provide you  
with useful information in the police investigation.

8  
11 Q. Useful information in your  
12 view; what do you know about police investigations?

13 A. Well I know a lot about  
14 diagnosis, and here we are trying to diagnose the  
15 cause of death.

16 Q. What do you know about a police  
17 investigation and the problems and issues that arise  
in one?

18 A. If the police are trying to make  
19 a diagnosis I know a lot.

20 Q. What do you know about police  
21 investigations and the issues and problems that they  
22 have to deal with on the human level; have you ever  
been involved in one?

23 A. I have now.  
24  
25





Macklem, cr.ex.  
(Hunt)

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Q. I take it what you are telling me, you really don't know that much about them?

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A. I know a lot about police investigations, if police investigations are trying to make a diagnosis, and I know a lot about making diagnosis

5

6

Q. You are saying if that is what they are all about.

7

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A. In this case one presumes that the exhumations were done in order to assist in making a diagnosis by the police as to the cause of death.

10

11

Q. So this is, another presumption that you are inferring into the whole process?

12

13

A. I can't imagine any other reason for exhuming babies.

14

15

Q. Have you got your information about police investigations from anywhere other than the newspapers?

16

17

A. What police investigations?

18

Q. The ones that I thought you were telling me you knew all about?

19

20

A. You mean about diagnostic; diagnosis by a policeman is much the same as the

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diagnosis by a physician and I happen to know a lot about diagnosis.

22

23

Q. So you say, but you have nothing

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2 to test that against, do you?

3 A. Well I don't know what you  
4 mean test that against. I passed the examinations  
5 of the Royal College of Physicians and Surgeons of  
6 Canada, I have --

10 Q. You have never been involved  
7 in a police investigation have you, sir, working with  
8 the parents of deceased people; working with police  
9 officers that have to deal with the myriad of problems  
10 that arise during the course of a police investigation?

11 A. No I have never been involved  
12 in a police investigation.

13 Q. And can I at least assure the  
14 people that I represent, that are concerned, that you  
15 are withdrawing the blame that you fixed on them  
16 during your interview with the Globe and Mail  
reporter on Tuesday of last week?

17 A. Yes I will withdraw the blame.  
18 I think it is unfortunate the babies were exhumed.  
19 I don't think they should have been exhumed. I am  
20 not willing to blame anybody but I don't think they  
should have been exhumed.

21 Q. Now you went on to say at  
22 page 10 of your paper, and Mr. Lamak has read this  
23 but I will read it again so there is no question what  
24  
25





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I am referring to:

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"In short a research procedure was

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used to answer a very important

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question long before it was appropriate

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to do so, but in contra-distinction to

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what I have been saying this was done

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for political rather than academic

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reasons."

10

Can we start from the point that you

11

have not one thread of evidence to support the

12

contention that anything was done for political

13

motives in the course of the investigation into this  
matter?

14

A. Would you define "political".

15

Q. You were the one using the  
word, sir.

16

A. Yes, would you like me to

17

define "political"?

18

Q. Yes, would you define it.

19

A. Governmental.

20

Q. Do you have a shred of evidence

21

that any decision made was done for reasons that

22

relate to the government as opposed to reasons that

23

A. It was a government official

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who ordered the exhumations, in that sense I used the

25

word "governmental".

11





GG  
BMcrC

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2 I have apologized if the word  
3 "political" has caused embarrassment. Perhaps I  
4 should have used the word "legal".

5 Q. Well, it is a pretty clear  
6 statement, isn't it:

7 "...in contradistinction to what I  
8 have been saying, this was done for  
9 political rather than academic  
10 reasons."

11 If you had wanted to use the word  
12 "legal", you could have used the word "legal". If  
13 you had wanted to use the word "governmental", you  
14 could have used it. You chose the word "political".

15 A. Well, if I look up the  
16 definition of political in a dictionary, the first  
17 definition in Webster's Dictionary is governmental.

18 Q. Well, we have seen how you  
19 used the word governmental. I am going to suggest to  
20 you, sir, the reason why that was in there is because  
21 you knew that that kind of an allegation was a hook  
22 that would have the media attention if they missed  
23 everything else.

24 A. No, I did not. That is  
25 incorrect. And because I have been widely misquoted  
in the press as saying that the Attorney General





GG2

1  
2 exhumed the babies for political reasons, I have  
3 regretted using that word.

4 On the other hand, if you substitute  
5 "governmental", probably the media would not have  
6 jumped on the word, and I regret using it.

7 Q. Well, I suggest you regret  
8 using it because very shortly after you used it,  
9 you realized you were in some trouble for using it.

10 A. I don't know that I am in  
11 trouble - yet.

12 Q. You seem to have gone to  
13 great lengths --

14 A. You haven't told me that I'm  
15 in trouble yet.

16 Q. Why, sir, did you end off this  
17 paragraph with the sentence:

18 "All reasonable people will reject  
19 the conclusions of the Attorney  
20 General's Office..."

21 Just stopping there, why were you  
22 exhorting all reasonable people to reject certain  
23 conclusions when you were addressing a group of  
24 physicians and medical personnel? What was your  
25 purpose in taking the group that you were exhorting  
to reject this beyond the one that you were addressing





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and suggesting it to all reasonable people?

A. The issue of deaths of children in The Hospital for Sick Children has become a cause celebre, it's a national issue. I think that if certain conclusions are based on invalid evidence, then reasonable people should reject those conclusions.

Q. You knew at the time you made this comment that this Royal Commission was sitting in Toronto.

A. Yes, I certainly did that.

Q. You knew the Commissioner was grappling with some of these issues that you had some concern about.

A. Yes.

Q. Well, why would you choose a speech to a group of medical people to make an exhortation to all reasonable people to reject something when you knew that the Commissioner was dealing with it right at the same time you were making the speech in Toronto?

A. Well, I thought that I was entitled to my own opinion.

Q. It wouldn't have hurt to have put your opinions in a letter and sent it to the





1  
GG4 2 Commissioner, would it?

3 A. No, it wouldn't have. We  
4 have gone through my attempts to get the message  
5 across in the past, and I admit quite freely that I  
6 am very naive in getting messages across that I think  
7 are important to people outside of my profession.

8 Q. Well, several times here  
9 today you have said if several people are offended,  
10 you apologize. I've got to deal with those people  
11 that are in fact offended and I want to ask you,  
12 when I go back to speak to them and I tell them that  
13 you are giving, first of all, to Mr. Cimbura a clear  
14 and unequivocal apology to him for using the language  
15 that you did to make your point --

16 A. I suppose it depends what  
17 you mean by a clear and unambiguous apology. I will  
18 certainly apologize to Mr. Cimbura if I have hurt him  
19 unnecessarily. On the other hand, I still maintain  
20 that exhumations were done which were unnecessary and  
21 should not have been done; that additional animal  
22 experiments should have been done, which were not done.  
23 In the absence of that information, the results that  
24 are obtained are not interpretable.

25 Having said that, if I have impugned  
the wrong motives to Mr. Cimbura, the Attorney General,





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GG5 2 the Solicitor General, you have my clear and un-  
3 ambiguous apology.

4 MR. HUNT: Thank you. Those are  
5 all the questions I have.

6 THE COMMISSIONER: Yes.

7 Mr. Young?

8 MR. YOUNG: I have no questions,  
9 Mr. Commissioner.

10 THE COMMISSIONER: Mr. Atkinson?

11 MR. ATKINSON: No questions, thank  
12 you.

13 THE COMMISSIONER: Mr. Lamek?

14 MR. LAMEK: I have nothing more.  
15 Thank you.

16 THE COMMISSIONER: Well, thank you,  
17 thank you, doctor.

18 MR. ROLAND: Mr. Commissioner.

19 THE COMMISSIONER: Oh, sorry.

20 MR. ROLAND: Just before the doctor  
21 goes and so that the record is clear, Mr. Lamek  
22 referred the doctor to a matter in the digoxin,  
23 the Re Panel Minutes, at Item No. 5(2), and Mr.  
24 Lamek characterized - it's the second line - to the  
25 doctor, he characterized the problems in the  
interpretation of the GC/MS data as a problem that





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GG6 2 Mr. Lamek seemed to understand, and I have no  
3 criticism of him, seemed to understand was a general  
4 problem with GC/MS data; that is, at large.

5 I have spoken to Dr. Hill about it,  
6 who is the author of these minutes, and he tells me  
7 that is not what was meant by it; it was the problem  
8 with GC/MS data particularly being examined by this  
9 panel; that is, with respect to Lombardo and Belanger.

10 MR. LAMEK: Mr. Roland did pass that  
11 on to me and I told him that I would clarify in that  
12 regard. I'm sorry, he's quite right.

13 THE COMMISSIONER: Yes.

14 Well now, I would like to thank you,  
15 Doctor, and at the same time I have already commended  
16 your wife for making the change. It wasn't, as it  
17 turns out, necessary but I hope you can entertain  
18 her properly tonight here so that it won't be a waste.

19 THE WITNESS: I hope to have a very  
20 enjoyable evening in Toronto after a rather difficult  
21 day.

22 THE COMMISSIONER: Yes. All right.  
23 Thank you. Thank you very much.

24 Thank you, Mr. Atkinson, Mr. Paterson.

25 MR. ATKINSON: Thank you.

MR. LAMEK: Mr. Commissioner, I have





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no further evidence for today.

THE COMMISSIONER: No. I am just wondering if we couldn't, before we lose counsel, if we could discuss the question of argument.

MR. LAMEK: Sure, by all means.

THE COMMISSIONER: And before any counsel disappear, we have, as you know, completed the argument on Phase I. First of all, does anyone intend to call any evidence arising out of this evidence we've had today?

MS. RAE: Mr. Commissioner, perhaps I might say I don't anticipate calling evidence but Mr. Strathy is out of the country until the weekend and I would certainly like to discuss things with him.

THE COMMISSIONER: Yes. But I think I can tell you what Mr. Strathy will say. I'm not too sure I can say what some of the others will say but I am sure I know what he'll say.

Does anyone else have any intention of calling any evidence?

Is there any reason why we couldn't argue this matter right now?

MR. TOBIAS: Mr. Commissioner, I was going to suggest, sir, that since counsel at the back of the room literally will not be here again --





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THE COMMISSIONER: It might be a good idea.

MR. TOBIAS: -- it would be most appropriate to argue it now and get it out of the way.

THE COMMISSIONER: Yes.

MS. RAE: You mentioned yesterday, Mr. Commissioner, that you would entertain also written submissions.

THE COMMISSIONER: Oh, I think anyone who wants to write in argument on it, but as I say, I would like to dispose of that issue now so that we don't have to call anybody back.

MS. RAE: I would certainly like to speak to Mr. Strathy before deciding about further argument.

THE COMMISSIONER: Yes. If you do, if anybody wants to, you would have to make the appropriate number of copies and send your submissions to everybody else and everybody will have a chance to reply to it.

Yes. Well now, Mr. Lamek, have you anything you want to say with respect to this matter?

MR. LAMEK: Only this, Mr. Commissioner. Certainly nothing I have heard today from Dr. Macklem persuades me that I should change any of the submissions





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that I made to you at the end of Phase I. Clearly, Dr. Macklem had a point which he felt obliged to make. I won't comment on the manner in which he chose to make it or, indeed, the language in which he chose to make it, but it is clearly a point of far less scope than it appeared to be when reported in the press.

The point at the bottom may be a not unreasonable scientific point that, before you interpret results, you've got to be sure the results mean what you think they mean and that there are controls. With that proposition, nobody would have argued, I'm sure. I'm sure Mr. Cimbura would not have argued, and it was presumably precisely for that reason that he did not think it appropriate to draw any conclusions or inferences from the results which were, in themselves, inconclusive.

THE COMMISSIONER: Well, he did draw first the one conclusion; namely, that there had been digoxin administered to the children.

MR. LAMEK: Well, . . . that, I understand.

THE COMMISSIONER: Well, the doctor, as I understand it, Dr. Macklem, merely --

MR. LAMEK: Wouldn't even go that far





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because, as he says, it is possible that digoxin may appear in the course of several months of burial, and I can only say that that was not a possibility that occurred to any of the pharmacologists or cardiologists or biochemists here as a possibility that was sufficiently grave to take into account and, in my submission, for the purposes of this Commission, one must deal in the state of the art and what is likely rather than remotely possible. It is not a factor that, I suggest, changes any of the views that I expressed to you, sir, on the other occasion.

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THE COMMISSIONER: Well, is there anything that can be done now, that's all?

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MR. LAMEK: In my submission, there is not. I don't think I can add anything to that, sir.

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THE COMMISSIONER: Mr. Brown?

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MR. BROWN: I have no submissions on Dr. Macklem's testimony, sir.

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THE COMMISSIONER: Mr. Roland?

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MR. ROLAND: Just to follow up on what Mr. Lamek has to say about this. It seems to me that Dr. Macklem does have a point, that there does seem to be, unfortunately, no scientific information, either in the literature or elsewhere, that we know

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GG11 2 of to deal with the point he raises; that is, the  
3 possibility that digoxin or something that measures  
4 as digoxin in these exhumed tissues may exist or may  
5 come about as a result of the decomposition of  
6 tissue that is in the ground.

7 THE COMMISSIONER: The problem is  
8 that there is no evidence to support that it may  
9 happen.

10 MR. ROLAND: There is no evidence  
11 either way, unfortunately. That's the troublesome  
12 point.

13 THE COMMISSIONER: Well, perhaps there  
14 is no evidence either way. The fact that there has  
15 never been any discovery of any digoxin forming  
16 after death, that is, true digoxin forming after.  
17 Substance X we know about, and Substance X forms  
18 before death, but we have no evidence of -- surely,  
19 don't I have to act on what we have?

20 MR. ROLAND: You have to act on what  
21 we have. What I say, sir, though, what is troublesome  
22 about it, and it may all be cleared up in the future  
23 when experiments are done, but it appears, as far as  
24 we know, there are no experiments either way that  
25 it does or does not, and that's the troublesome point  
that I think you are faced with.





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THE COMMISSIONER: I put to you,  
is there anything that we can possibly do?

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MR. ROLAND: There is nothing we  
can do; we are not scientists and in the business of  
doing these experiments.

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THE COMMISSIONER: No, no, I'm talking  
about the Commission and attempting to have any such  
experiments as these made. The only thing that could  
be done, I suppose, would be to exhume bodies of  
children --

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MR. ROLAND: Well, that I suppose is  
possible.

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THE COMMISSIONER: It is an outrageous  
thought.

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MR. ROLAND: It is probably not  
socially acceptable, not palatable, but all I say,  
sir, is that you have that troublesome aspect  
coming out of this evidence that it makes it difficult,  
it seems to me, or more difficult than before Dr.  
Macklem testified, to deal with the results that Mr.  
Cimbura obtained.

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Now, it may very well be digoxin,  
it certainly reads as digoxin, everybody agrees that  
what Mr. Cimbura discovered was digoxin, there's no  
doubt about that. The question is, what is the

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2 source of the digoxin, and there is nothing in the  
3 scientific literature, it appears, according to  
4 Dr. Macklem and certainly according to the people  
5 I have talked to, that speaks on that point. There  
6 just hasn't been any scientific investigation of it.

7 THE COMMISSIONER: It is legitimate  
8 evidence, though. The doctor, speaking to scientists,  
9 says it is not evidence at all and, of course, it is  
10 evidence. It is evidence in a legal sense.

11 MR. ROLAND: Well, there is no  
12 doubt. Everybody agrees, this doctor agrees, what  
13 was discovered in those tissues was digoxin. We can,  
14 I think -- or at least it is probably digoxin, and  
15 there is no disagreement about that.

16 THE COMMISSIONER: Well, everybody  
17 says it is the best system known to man to determine  
18 whether or not it is digoxin.

19 MR. ROLAND: That's right.

20 THE COMMISSIONER: And the state of  
21 the art at the moment is that nothing better could be  
22 done.

23 MR. ROLAND: But your mandate is not  
24 just to say that it is digoxin but what's the source  
25 of the digoxin. Was it administered ante mortem or  
does this come about as a result of something that  
occurs when a baby is buried and thereafter?





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2 THE COMMISSIONER: But there is  
3 no evidence for that.

4 MR. ROLAND: There is no evidence  
5 either way. That is the problem.

6 THE COMMISSIONER: It is true there  
7 isn't any evidence that it does or does not form.

8 MR. ROLAND: That is right.

9 THE COMMISSIONER: Surely it is  
10 more important the fact there is no evidence that  
11 it does form than the fact that it does not.  
12 Surely that is important.

13 MR. ROLAND: There is no experiment  
14 that has been done either to show it does or does not.  
15 There is just an absence of evidence, it seems to me.  
16 The fact that no experiments have been done doesn't  
17 mean there is a lack of evidence in any scientific  
18 sense. It simply means the matter has not been  
19 investigated. I think it adds that troublesome  
20 dimension to your mandate.

21 THE COMMISSIONER: Yes, all right.  
22 Thank you.

23 Miss Chown?

24 MS. CHOWN: I support what Mr. Roland  
25 has said and I don't have anything further to add.

THE COMMISSIONER: All right.





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2 MS. SYMES: I support what Mr. Roland  
3 has to say and I point out to you in Miss Kitley's  
4 submissions to you that she posited to you that  
5 there may be at the present time not sufficient  
6 evidence for you to determine what the cause of  
7 death was, that is that the state of scientific  
8 knowledge may not yet have reached the point where  
9 you can say with any degree of certainty, and  
10 all Dr. Macklem has said today, sir, I think, is a  
11 very simple thing, and that is whether or not  
12 Mr. Cimbura's findings, that there was digoxin  
13 present in Lombardo and Belanger exhumed tissue,  
is in doubt. It may be --

14 THE COMMISSIONER: I'm sorry, I  
15 don't think there is much doubt it was there. If  
16 I were to draw a conclusion it was not there I  
would fly in the teeth of all the evidence.

17 MS. SYMES: I am sorry, as Mr. Roland  
18 put it, the source of it. It may be a false positive,  
19 as he has placed in the upper right hand corner --

20 THE COMMISSIONER: I don't think it  
21 can be a false positive, because all of these  
22 experts have looked at it and they have all said that  
this is digoxin.

23 MS. SYMES: Well, it, sir, could also  
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2 be the possibility that it would have been discovered,  
3 in other words, it would have tested in exhumed  
4 bodies of children who were not on digoxin and no  
5 record of digoxin either. In other words, that the  
6 test may not be specific, which is his second test  
7 that he gave to you.

8 THE COMMISSIONER: All right.

9 MS. SYMES: Sir, because it is  
10 crucial, as to the degree of certainty and precision  
11 of the quality of evidence before you, I do have  
12 a recommendation to suggest to you, to recommend  
13 to you.

14 THE COMMISSIONER: Yes.

15 MS. SYMES: That is that you can  
16 say in your report that there is this problem and  
17 that future tests on animals should be considered  
18 by the scientific community.

19 THE COMMISSIONER: I certainly  
20 would be in trouble with the Society for the  
21 Prevention of if I made any such recommendation.

22 MS. SYMES: I don't believe that  
23 is so at all. They are recognizable --

24 THE COMMISSIONER: I would get in  
25 trouble with Mr. Lamek's dog.

MS. SYMES: He won't ask him to





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volunteer.. But that proper scientific studies --

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THE COMMISSIONER: I am afraid if

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you do it with animals somebody will say that

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doesn't prove it works with babies just because it  
works with animals.

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MS. SYMES: As Dr. Macklem said, he  
is not conclusive, but if it knocks it out at that  
point, that is it is neither sensitive nor specific  
then you realize there are real problems with the  
information to be drawn from Dr. Cimbura's results.

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THE COMMISSIONER: Yes, all right,  
thank you.

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Mr. Labow?

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MR. LABOW: Mr. Commissioner, I  
adopt what Mr. Lamek said and, as I submitted to you  
at the end of Phase I, the idea that anything has  
to be proven to you to a scientific certainty is,  
I submit, ridiculous in the circumstances. You have  
to weigh it as best you can and come to whatever  
conclusions you can and I still submit that is the  
case here.

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None of the experts that were recalled prior  
to this Doctor placed much weight into the exhumed  
tissue results in any case and, as I understand it,  
this was this Doctor's only criticism.





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THE COMMISSIONER: The main evidence was with respect to Lombardo and Belanger.

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MR. LABOW: Along with the way they got it.

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THE COMMISSIONER: Along with which?

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MR. LABOW: The way they got it,

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THE COMMISSIONER: The way they died. That is not true. All of them except three or four died that way.

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MR. LABOW: I would still submit to you, Mr. Commissioner, that you have to do the best you can with this. I don't think Miss Symes' recommendation is out of line and it is something that you could recommend in your report, but it would be clarified after the fact and in your report I would think that you still have to do the best you can with what is put before you.

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THE COMMISSIONER: Yes, all right; thank you.

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Mr. Tobias?

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MR. TOBIAS: Yes. Thank you, Mr. Commissioner.

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With respect to the Hines matter, the readings on exhumed tissue were really collateral to the readings on fixed tissue and, of course,

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2 Dr. Macklem doesn't quarrel with the readings on  
3 fixed tissue, so that the evidence that you have  
4 heard today I submit will have very little impact  
5 with respect to your deliberations on the Hines  
6 child.

7 With respect to the question of  
8 the possibility of digoxin being formed after death,  
9 I would only point this out to you: I agree entirely  
10 with your observation that surely the absence of  
11 any evidence that that does happen is more significant  
12 than the absence of evidence that it does not happen,  
13 but I will take it one step further. It seems to  
14 me that those who have throughout these proceedings  
15 urged that point of view on you are inherently  
16 in the best position to get that evidence, to bring  
17 it to you and to date that evidence has not been  
18 produced.

19 Surely we are all stuck with the  
20 burden that we have in all cases and that is that  
21 we have to bring the evidence before you. We have  
22 to get it for you and we can't ask you to draw a  
23 conclusion because on a particular point there is an  
24 absence of evidence one way or the other.

25 Those are all my submissions.

THE COMMISSIONER: Mr. Shanahan?





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2 MR. SHANAHAN: Yes, sir. At the  
3 end of Phase I, and I gave submissions with respect  
4 to those families for which I acted, especially  
5 with respect to the Baby Lombardo, sir, it was our  
6 position the digoxin readings were one factor amongst  
7 many factors, that you should take into account.  
8 I think we said at the outset that if you felt  
9 with a certainty that Baby Cook was, in fact,  
10 murdered, because of the evidence surrounding the  
11 Baby Cook, my position to you was, sir, that that  
12 reflectively cast back over the months that had joined  
13 together and linked up many other aspects with other babies  
14 babies, who were in the dubious category that they shared  
15 those aspects of Baby Cook and in fact it raised  
16 the index of suspicion with respect to those  
17 babies much higher.

18 I put it to you, sir, that there  
19 were many aspects surrounding the death of Baby  
20 Lombardo that you were to take into account, the  
21 fact that she seemed to be improving and the fact  
22 she had been moved up to the ward and the fact that  
23 digoxin was contra-indicated and the fact she had  
24 been particularly susceptible to digoxin and the  
25 fact that the ward wasn't busy because it was  
Christmas time, and therefore, staff overloading





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2 wasn't a problem. I put it to you, sir, that at  
3 that particular point in time we had a reading  
4 here. We had digoxin confirmed and it was  
5 confirmed by Dr. Cimbura and it was confirmed by all the  
6 methods, the most sophisticated methods we had  
7 at the time.

8 I think Dr. Hastreiter went so far at  
9 one point in time, and I even think it was suggested, because  
10 it was found so diverse and that such high readings,  
11 higher than he had ever seen in any tissue at all,  
12 that in fact it may even be suggested quantitatively  
13 of a high amount. In the very least he was quite  
14 sure it was present in Lombardo.

15 I think if it wasn't established  
16 by Mr. Lamek today it was established by my friend,  
17 Mr. Tobias, here today that that too, all other  
18 factors remain unchanged, that that  
19 still maintains that in fact there was digoxin  
20 present in the tissues of Baby Lombardo.

21 I put to you here and it's suggested by  
22 other people, that have risen to this and said, well,  
23 we don't know what got it there. It could have  
24 perhaps been from other than administered  
25 in its life time.

26 I put to you, sir, here that really  
27 for you to say, that the case against the child,





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2 such as Lombardo being murdered, for you to conjecture  
3 then that it may be for some other cause that we  
4 don't even have explained to us or suggested to us  
5 really, sir, would be to fly in the face of all of  
6 the other factors that we have about this and  
7 other babies.

8 The Doctor says today that it is  
9 useless, the testing. He says it is not evidence,  
10 those were his quotations. Clearly, with all due  
11 respect to him, he is using terminology especially  
12 when he speaks about evidence, that has a legal  
13 import. What we know, sir, and I know you are nodding  
14 your head here in agreement, but I am just going to  
15 drive it home to you, what we have, sir, is many  
16 months of other factors that caused the police  
17 even to exhume Baby Lombardo and when you look at  
18 what we looked at and the patterns and the shifts  
19 and what have you, sir, and when you place Lombardo  
20 in that context, sir, that reading, the mere findings,  
21 is just another factor. He concludes in that  
22 paragraph, sir, on page 9 that "All reasonable  
23 people will reject the conclusions of the Attorney  
24 General's Office that exhumed babies were murdered  
25 by digitalis overdose because the evidence upon  
which this conclusion is based is not valid". He is





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assuming the evidence is the reading we found in  
Lombardo. You and I, sir, I am sure . . . are  
not assuming that. We are using all of the evidence  
of the Attorney General's Office and Mr. Lamek has  
presented here over the months and there are many  
other factors which I put to you . . . support the  
same conclusion that I put to you at the end of Phase  
I, that Baby Lombardo was clearly murdered.





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THE COMMISSIONER: Yes, thank you.  
Mr. Young.

MR. YOUNG: I have nothing more to  
say other than I adopt the recent submissions of  
Mr. Shanahan and the initial submissions of Mr.  
Lamek.

The one point that I think is worth  
stressing is that the Doctor came here today to speak  
about exhumed tissues and the results that were gained  
as a result of tests done on exhumed tissues. He  
did not, as I heard his evidence, he did not question  
the results gained from post mortem blood samples,  
ante mortem blood samples, fixed tissues or fresh  
tissues. I think that should be kept in mind, sir.  
I am not suggesting to you that you should accept the  
Doctor's evidence, but should you accept all of his  
evidence or a portion of it I think that should be fore-  
most in your mind.

Thank you, sir.

THE COMMISSIONER: Mr. Hunt.

MR. HUNT: At the end of Phase I  
I suggested to you, I believe, although I was looking  
for it and I didn't have time to find it, that when  
you come to assess the evidence you have heard, that





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2 I urged on you, that you are going to be satisfied  
3 that out of this whole piece one of the real heroes  
4 was Mr. Cimbura, because he was the man who started  
5 from scratch with a scientific problem that he  
6 developed, carefully developed his procedure. He  
7 applied it to the tests; he came up with results and  
8 he applied caution at every stage along the way and  
9 he withstood, not only the rigorous cross-examination  
10 of those who would have wished that he had done his  
11 work with something less than the caution that he  
12 did, but he also withstood the scrutiny of a panel  
13 of experts that was convened by the Hospital in  
14 order to consider his work, and determine whether  
15 it was satisfactory.

16 Nothing that I have heard from the  
17 lips of Dr. Macklem changes my view with respect to  
18 that in any way and, indeed, it appears that the  
19 unfortunate results of all of this, insofar as Mr.  
20 Cimbura is concerned, is that he has had to go through  
21 the last week with his competence and ability  
22 impuned before he could be exonerated here today.

23 I, therefore, urge on you the same,  
24 as I did at the end of Phase I, that in coming to  
25 your conclusions, with respect to the evidence, it  
is certainly open to you, and I urge you to find that





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2 Mr. Cimbura is, indeed, one of the real pioneers and  
3 the heroes of this whole set of tragic circumstances  
4 for the work that he did.

5 We all have to be very clear about one  
6 thing, as far as Dr. Macklem is concerned, and that is he is  
7 totally out of his field in this area. He admits that  
8 and he admitted that to the group when he spoke to  
9 them last Monday in Montreal, that the third example  
10 he was going to give was not one that was in his own  
11 field. He has brought to you a proposition and a  
12 point which I submit is not new. It is one that others  
13 have taken into account, indeed, Mr. Cimbura expressed  
14 that concern over this point, although not in the  
15 same words as Dr. Macklem, when he was doing his  
16 reports.

17 We have had witnesses testify here  
18 who, I submit to you, could consider to be experts in  
19 an area where Dr. Macklem is not.

20 We have heard from pharmacologists  
21 who have discussed the pharmacokinetics of digoxin  
22 and their experience with it, their understanding and,  
23 in particular, we have heard from Drs. MacLeod and  
24 Spielberg at the Hospital. Both of those doctors  
25 indicated to you that, yes, looking at the testing  
that has been done, it was state of the art and they





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were prepared to accept that what Mr. Cimbura found in the exhumed tissues was digoxin and they, based on their experience and knowledge in the field, were prepared to go one step further and say that based on what they knew at this point in time, what medicine knew at this point in time, it was a reasonable conclusion to draw, that that digoxin got there as a result of a dose of digoxin during life.

They wouldn't attach any interpretation to it that involved quantifying the amount that was given, but their evidence was that at this point in time, based on the state of the art, it was a reasonable conclusion to draw.

Now, I won't read that, but I will direct you to the passages with respect to Dr. Spielberg. It is Volume 54 and particularly lines 10 to 18.

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DM.jc  
"II"

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THE COMMISSIONER: What page?

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MR. HUNT: I am sorry, page - I am  
4 having trouble finding it, 2123.

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THE COMMISSIONER: Page 2123 and the  
line?

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MR. HUNT: Lines 10 to 18, it is  
very short. Perhaps it would assist you if I put it  
8 to you. It was during Mr. Lamek's direct examination.

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THE COMMISSIONER: Yes.

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MR. HUNT: "Q. Is there one question  
which in your opinion can be answered

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by those numbers ... "

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and he is referring to the exhumed tissue and the  
amounts that were found there by Mr. Cimbura. The  
question is this:

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"That although one may not be able  
to build back to an ante mortem level in  
children in whose exhumed tissues  
digoxin has been measured, one may at  
least say with some confidence that  
they did have some digoxin administered  
to them during life?

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• "A. At our present state of

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knowledge it is probably a reasonable  
assumption with the following caveat

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II.2

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"that has been the issue of  
endogeneous substances."

He clearly had the question in his  
mind; knowing what he did, he was prepared to say  
that in the present state of the art that was a  
reasonable assumption.

Dr. MacLeod testified in Volume 64,  
at page 4271, line 9 through to 2023, again during  
Mr. Lamek's direct examination dealing with exhumed  
tissues, the tail end of Mr. Lamek's question without  
getting into the early part:

"Q. In light of those analytical  
results and those analytical  
procedures, is it reasonable to  
accept that what was identified in  
these three children was very  
probably digoxin?

"A. Yes. Very probably is the  
right word. Ideally as a scientist  
I should say to you I would like to  
see the mass spectrum but accepting  
that at face value I think there is  
a very high likelihood, at least in  
the two that were measured by GC mass  
spec that this was in fact digoxin.





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"Q. And if indeed it was digoxin is it fair that we have to conclude that unprescribed digoxin was administered to these children?

"A. Yes a reasonable conclusion."

In my submission to you, the people who are in a far better position to give opinion on this matter than Dr. Macklem have already given you their opinion on it.

Indeed, we have in addition to that, Dr. Phillips, who has presented you with evidence with respect to the post mortem blood digoxin tests that were done on the 608 children, where control samples were used on the procedures that Mr. Cimbura applied to them and his evidence and the results of those are found in Volume 58 and I won't take the time to go through those. In my submission beyond question the procedures that Mr. Cimbura was applying are ones that were accurately measuring digoxin.

Now the point of course that Dr. Macklem couldn't really address himself to, because he wasn't familiar with the evidence, is that it is not just the presence of digoxin in exhumed tissue that is a significant feature, one





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has to look at the clinical course of the child  
and the terminal event of the child.

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You will recall, as Mr. Shanahan  
alluded to here a few moments ago, that when  
Dr. Tepperman reviewed the Lombardo chart, for what  
he thought was the first time, he said the clinical  
picture and the terminal events of this child stood  
out like a sore thumb. What his comment was, we have  
got to exhume this baby and see if we can find out  
anything from it.

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In addition to that one has to  
consider the circumstantial evidence with respect  
to the circumstances on the ward at the time the  
child likely received any digoxin, or went into the  
terminal event, to assess those in combination with  
the other factors before a conclusion was drawn.

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So it is not as simple as in my  
submission Dr. Macklem has presented it, or indeed  
as my friends presented it to you. With those few  
comments I adopt Mr. Lamek's position and I add  
nothing further to the argument that I made at the  
end of Phase I.

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THE COMMISSIONER: Right. Thank you.

Now strictly speaking I should back-up  
the line before I come to Mr. Lamek. Has anyone





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any further comments arising out of someone after him or her, something said by --

MR. ROLAND: There is only one thing, in the exchange you had with Miss Symes, and I think it is just so that you understand, as I understood at least Dr. Macklem's testimony.

Miss Symes suggested to you that what Dr. Macklem was saying was that there might be a false positive result, and you in response to that said, no, it was agreed there was digoxin. I think you misunderstood his point. The condition he was talking about, that Dr. Macklem was talking about, was digoxin in the body of an infant prior to burial, that is the condition. The false positive in Dr. Macklem's mind then is the possibility that you discover digoxin but that the digoxin arrives in the experiment not as a result of being administered to the infant during life, but through some other means.

THE COMMISSIONER: Yes.

MR. ROLAND: So I think that is what Dr. Macklem was saying when he meant a false positive.

THE COMMISSIONER: Mr. Lamek?

MR. LAMEK: I have nothing further, sir.

THE COMMISSIONER: Yes. All right.

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We did that well, didn't we, it is now twenty-eight minutes past four, we put in the time to keep us out of trouble. Do you want to --

MR. LAMEK: May I just tell you, sir, and other counsel --

THE COMMISSIONER: Yes.

MR. LAMEK: ... what the schedule is for the balance of the week. Miss Cronk has been called away on a family matter and won't be able to be here tomorrow. Therefore I propose tomorrow to call Mr. Takach and he will be the only witness for tomorrow, he may take the whole day, he may not. In any event I don't think you propose to sit late in the afternoon?

THE COMMISSIONER: No.

MR. LAMEK: Because you have to be elsewhere as do I. Thursday morning I propose to call Miss Symes and she will be followed by Mrs. Radojewski for the completion of her evidence; who in turn will be followed by Mr. Sandler. If Mr. Sandler cannot be completed by Thursday then I hope we will be able to sit on Friday for as long as is necessary to complete his evidence, because I can tell you with some glee that he is the last witness that I propose to call.





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THE COMMISSIONER: Does anyone want to advise whether they have any present intentions of calling any witnesses?

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MR. ROLAND: I will be happy to start that off, I have no present intention of calling any witnesses.

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MS. SYMES: We have no present intention of calling any witnesses. Could I ask one thing? Rather than taking up Friday would it be possible, sir, to ask that we stay late on Thursday night in the hopes of not using up another day?

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THE COMMISSIONER: Oh yes, oh yes, I think that is quite possible but it may prove to be impossible, I don't know how much Mr. Sandler has to contribute to this cause, but if he has a great deal to say we may not be able to do it, that's all. No, I think we threatened Fridays about 28 times in the course of this hearing and never once has the threat been carried out. The threat itself is almost good enough to solve the problem.

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Well now I would like, particularly if we end on Thursday, I would like to start the argument on Monday, but we could perhaps find out how long people are going to be and if you would like to start on Tuesday instead of Monday to give





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you some more preparation, provided we will finish next week, we could consider that. I am going to make a statement tomorrow on Section 5-2, that is the Notices to be given and my views on it. They are my tentative views on the matter and I will invite any differing views to be put before me but I just announce that, and ordinarily I would make it at 10 o'clock in the morning but the problem sometimes is the audience has not reached full attendance yet, so I think I will make it after the break in the morning, or perhaps better still just before the break in the morning. Anyway, there we are. That is what the plot is and we will rise now until 10 o'clock tomorrow morning.

--- Whereupon at 4:30 p.m. the hearing adjourned until 10:00 a.m., Wednesday, September 19th, 1984.





